DOCUMENT RESUME

ED 397 514 EA 027 761

TITLE	Connecting Learning and Work: A Call to Action.
INSTITUTION	Education Commission of the States, Denver, Colo.
PUB DATE	Jun 96
NOTE	55p.
AVAILABLE FROM	ECS Distribution Center, 707 17th Street, Suite 2700, Denver, CO 80202-3427; fax: 303-296-8332; e-mail: ecs@ecs.org; http://www.ecs.org (Stock No. LW-96-1; $15 plus $4.25 postage and handling; quantity discounts).
PUB TYPE	Viewpoints (Opinion/Position Papers, Essays, etc.) (120)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	Cooperative Planning; Economic Development; *Educational Change; *Educational Cooperation; *Education Work Relationship; Elementary Secondary Education; *Labor Force Development; Partnerships in Education

ABSTRACT

Connecting Learning and Work is a set of initiatives that combines education reform, work-force preparation, and economic development to prepare individuals for a lifetime of learning, citizenship, and career success. This report describes shifts in thinking about how students learn: meeting the needs of learners; schools, communities, and work sites as classrooms; assessment and certification of what students know and can do; flexible funding across institutions and through local partnerships; and lifelong learning. The report identifies nine critical needs that are emerging: (1) for new collaborative relationships that give local partnerships the power to make decisions; (2) for a shared understanding of what will be accomplished; (3) for students to obtain credentials that tell potential employers and postsecondary institutions what they know and can do; (4) for a system that serves all students; (5) to strengthen relationships between K-12 and postsecondary education; (6) to include employers as partners in education; (7) to prepare educators for teaching in ways that connect learning and work; (8) to hold local and regional partnerships accountable; and (9) for state leadership and individual responsibility. Steps for meeting these needs are suggested for state leaders and policymakers; parents and students; schools, school districts, and communities; higher education; and employers, employees, and business leaders. The foreword was written by Governor Tommy G. Thompson, Wisconsin, 1995-96 ECS Chairman. A list of resource organizations is included. Appendices contain a matrix that depicts the roles and components in an effective system connecting learning and work and a list of related publications from ECS. (Contains 19 references.) (LMI)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 397 514

UNIVERSITY

COMMUNITY/TECHNICAL COLLEGE

GOVERNMENT

CONNECTING LEARNING AND WORK

Key Policy

A CALL TO ACTION

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it.
- ☐ Minor changes have been made to improve reproduction quality.
- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

S. F. Walker

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ECS

EDUCATION COMMISSION OF THE STATES

BEST COPY AVAILABLE

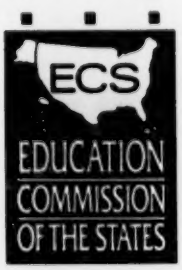
LEA 027 761

CONNECTING LEARNING AND WORK

A CALL TO ACTION

June 1996

Education Commission of the States
707 17th Street, Suite 2700
Denver, Colorado 80202-3427
303-299-3600
FAX: 303-296-8332
e-mail: ecs@ecs.org
http://www.ecs.org



The class of the Year 2000 will be setting the standard for a new century. We owe them, and those who follow, an education that will connect them to the changing world of work, to advances in technology, and to the knowledge and skills needed for productive lives in the next millenium.

Wisconsin Governor
Tommy G. Thompson,
1996

The AMOCO Foundation, Inc. and Travelers Foundation partially supported the Connecting Learning and Work initiative. The opinions expressed are those of ECS and do not necessarily reflect the views of other parties.

Copies of this book are available for $15.00 from the ECS Distribution Center, 707 17th Street, Suite 2700, Denver, Colorado 80202-3427, 303-299-3692. Ask for No. LW-96-1.

© Copyright 1996 by the Education Commission of the States (ECS). All rights reserved.

The Education Commission of the States is a nonprofit, nationwide interstate compact formed in 1965. The primary purpose of the commission is to help governors, state legislators, state education officials and others develop policies to improve the quality of education at all levels.

Forty-nine states, the District of Columbia, American Samoa, Puerto Rico and the Virgin Islands are members. The ECS offices are at 707 17th Street, Suite 2700, Denver, Colorado 80202-3427.

It is ECS policy to take affirmative action to prevent discrimination in its policies, programs and employment practices.

Postage and handling charges: Up to $10.00, *$3.00*; $10.01-$25.00, *$4.25*; $25.01-$50.00, *$5.75*; $50.01-$100.00, *$8.50*; $75.01-$100.00, *$10.00*; over $100.00, *$12.00*.

Generous discounts are available for bulk orders of single publications. They are: 10-24 copies, 10% discount; 25-49 copies, 20% discount; and 50+ copies, 30% discount.

Table of Contents

ACKNOWLEDGMENTS iv

EXECUTIVE SUMMARY 1

FOREWORD 3

CONNECTING LEARNING AND WORK — WHAT IS IT? 8

QUESTIONS ABOUT INITIATIVES TO CONNECT LEARNING AND WORK . . . 9

EFFORTS TO CONNECT LEARNING AND WORK ACROSS THE NATION . . 13

A CALL TO ACTION . . .

. . . For State Leaders and Policymakers 17

. . . For Parents and Students 19

. . . For Schools, School Boards and Communities 23

. . . For Colleges, Universities and Community Colleges 25

. . . For Employees, Employers and Business Leaders 28

CONCLUSION . . . THE CHALLENGES AHEAD 30

KEY WORDS FOR CONNECTING LEARNING AND WORK 31

REFERENCES 35

RESOURCE ORGANIZATIONS 36

APPENDIX 37

RELATED PUBLICATIONS FROM ECS 42

ECS PUBLICATIONS ORDER FORM 43

Acknowledgments

This document reflects the efforts of many people working collaboratively. Governor Tommy G. Thompson of Wisconsin and his staff were integrally involved with the development of this publication. A special note of thanks is due to Jon Litscher, Vicki Poole, Dwight York and others in the state for their input and extra effort in contributing to this report.

The initial advisory board to Governor Thompson included Milton Goldberg of the National Alliance of Business, Hilary Pennington of Jobs for the Future, Robert Wallhaus of Illinois and Marc Tucker of the National Center for Education and the Economy.

Robin White and Ivan Charner with the Academy for Educational Development provided invaluable comments and advice regarding the document. Special thanks also go to Carolyn Chaliff of Audrey Cohen College, Sheila Reed of Missouri's Pattonsville High School and Sharilyn Sorrels of the Tulsa Public Schools.

Several ECS staff members were key in the development of both Governor Thompson's Connecting Learning and Work initiative and the publication of this document. Diana DeLuca was instrumental in providing vision, coordinating internal and external efforts and writing the information contained here. Amy Sebring, Donna Payne-Greenberg and Charles S. Lenth provided research, writing and editorial support. Other contributors included Josie Canales, Kay McClenney, Frank Newman, Chris Pipho, Sherry Freeland Walker, Anna West, Gerrit Westervelt and Mark Weston. Debra Komodore designed the publication.

The Education Commission of the States would like to thank the Travelers Fund and the Amoco Foundation, Inc.for their support of activities relating to this document. ECS is deeply indebted to all of the individuals who made this project possible.

Executive Summary

Connecting Learning and Work is a powerful set of initiatives that combines education reform, workforce preparation and economic development to prepare individuals for a lifetime of learning, citizenship and career success.

It calls for all learners — those headed immediately for higher education as well as those headed for the workplace — to be held to high academic standards, to have the opportunity to apply their knowledge to real-life situations and to fulfill their career ambitions. It expects that most individuals will reenter the education system at some point during their careers.

These changes are necessitated in large part by an evolving workplace that calls for new emphasis on teamwork and individual responsibility. Connecting Learning and Work requires that schools expect no less of students than will be asked of them once they enter the workplace and adult life. It also requires that states and students take a broader view of education as a process that occurs over a lifetime. Learning and skills development do not end with high school or college graduation; they are recurring demands throughout our professional and personal lives.

Students Learn in New and Applied Settings

As an education reform, Connecting Learning and Work represents important shifts in thinking about how students learn:

- From serving the interests of the adults who teach to meeting the needs of learners
- From schools as the sole site of learning to schools, communities and worksites as classrooms
- From evaluation based on classroom time to assessment and certification of what students know and can do
- From funding by rigid categories to flexible funding across institutions and through local partnerships
- From education that ends with certificates and degrees to education that continues for a lifetime.

Because Connecting Learning and Work is a collaborative effort, it calls for all parties involved with the education process to take on new roles and to think differently about education and employment.

In this process, nine critical needs are emerging:

1. The need for new collaborative relationships that give local partnerships of schools, employers, students and parents the power to make decisions..
2. The need for a shared understanding of what will be accomplished.
3. The need for students to obtain credentials that employers and postsecondary education institutions can accept as evidence of what they know and can do.
4. The need for a system that serves all students, regardless of where they live or their plans after high school.
5. The need to strengthen relationships between K-12 and postsecondary education.
6. The need to include employers as partners in education.
7. The need to prepare educators for teaching in ways that connect learning and work.
8. The need to hold local and regional partnerships accountable.
9. The need for state leadership and individual responsibility.

Grassroots Movement Calls on States for Support

Connecting Learning and Work is a "bottom-up" education reform. It gives local communities and schools primary

A CALL TO ACTION:

- ✓ ***State Leaders and Policymakers***
- ✓ ***Parents and Students***
- ✓ ***Schools, School Districts and Communities***
- ✓ ***Colleges, Universities and Community Colleges***
- ✓ ***Employees, Employers and Business Leaders***

responsibility for preparing students to become caring family members, thoughtful citizens, effective employees and active participants in our communities. It asks state governments to help coordinate local efforts, to provide adequate funding and to support local accountability mechanisms without unnecessary state or federal intervention. For Connecting Learning and Work to reach all students, individuals at each level of the education system must take action. Suggested steps include:

State Leaders and Policymakers

☑ Promote the principle that education requires continuous evaluation and improvement, not quick fixes.

☑ Provide open public information, communication and understanding of state initiatives.

☑ Provide leadership to develop high, consistent standards for all learners.

☑ Ensure that legislative and executive actions are linked to agreed-upon statewide goals, economic needs and community resources.

Parents and Students

☑ Recognize the value of learning, help students achieve high expectations and participate in planning for postsecondary education.

☑ Understand what students must do to succeed in the workplace and postsecondary education. Consult with teachers, guidance counselors and potential employers about student skills and needs.

☑ Complete portfolios of projects, interests and work experience to demonstrate knowledge, skills and abilities.

Schools, School Districts and Communities

☑ Listen. Parents, teachers, employers, employees, community leaders, faculty and postsecondary education leadership can contribute to the discussion of what students should know and be able to do.

☑ Ensure that *all* students have strong academic skills and work experience.

☑ Provide reward structures that encourage teachers to build more opportunities for applied learning into their teaching.

☑ Ask employers for up-to-date information on job opportunities and skill requirements for students.

Colleges, Universities and Community Colleges

☑ Restructure faculty reward systems to place more emphasis on teaching and student service.

☑ Build agreements among schools and two- and four-year campuses that provide students with easy access to postsecondary education, avoid duplicative coursework and delineate clear career pathways.

☑ Support assessment systems that provide continuous feedback on student learning and institutional performance.

☑ Listen to the consumers. Adult learners need courses scheduled that do not conflict with work or personal commitments.

Employees, Employers and Business Leaders

☑ Set education as a major goal and responsibility for the business community.

☑ Serve on local and state steering committees or boards striving to connect learning and work.

☑ Identify the skills and knowledge students should bring with them to the job.

☑ Keep policymakers and educators informed about changes in the workplace and future workforce needs.

Despite the relative youth of Connecting Learning and Work as an education reform initiative, state experiences show remarkable progress. If Connecting Learning and Work is to make a real difference, however, states need to do everything possible to maintain a sense of cohesion and solidarity among interested parties.

Foreword

Governor Tommy G.Thompson, Wisconsin, 1995-96 ECS Chairman

Open any newspaper and you know the world has changed. Like a newspaper, change comes everyday. Events in the headlines and the stories we read underline new developments in how we interact with one another, how we carry out workplace responsibilities, and how we look to the future and define our place in it.

Technology has changed not only our daily lives but also the ways in which we talk and think. Our language now includes the terms *electronic banking, communication satellites, desktop publishing, web sites, on-board automobile computers, magnetic resonance imaging* and *just-in-time manufacturing* — all technological developments we use on a daily basis and that signify profound changes in the way we interact and plan for the future.

New Demands

In our jobs, an explosion of knowledge and a desire to promote continuous improvement have meant more teamwork and individual responsibility in our workplaces. In automobile dealerships, teams of mechanics often work together to troubleshoot problems and then make repairs. In manufacturing, employee teams increasingly produce entire products rather than just installing component parts. The challenge for all team members is communication and cooperation.

In this new world, team members are responsible for their individual performance, the quality of the team's work, and the shape and value of that work in the future. As a result, most employees find themselves in jobs that require higher skill levels, stronger communication and interpersonal skills, and more responsibility for the production and completion of projects.

Twenty years ago, jobs were more familiar and the future seemed predictable. We were more sure how to prepare students to be successful learners, employees or entrepreneurs and citizens. Today, our best-selling books are likely to have titles such as *Managing in a Time of Change* and *How To Survive The Future*. Employers and employees alike are challenged to adapt to this rapidly evolving environment.

As I travel the country, business leaders tell me they need new qualities in their employees if they are to keep pace with the explosion of knowledge and technology. They need employees who are not afraid of change, who are comfortable with technology, who can think for themselves, who can work in highly adaptable teams, and who can see and identify new opportunities.

Higher Expectations

Employees tell me they want the chance to update their knowledge and to have their contributions valued. If what they and their employers say is true — and I believe it is — there are major implications for our education system. Our graduates need strong basic skills, the ability to apply their knowledge to real-life situations and an appreciation for continued learning throughout their lives. To make this possible, it is clear that *we cannot expect less of students and learners than will be expected of them once they enter the workplace and adult life*. Educational opportunities must support the development of highly motivated and responsible citizens.

The sad fact is that conventionally we have held high expectations only for those students who plan to enter four-year campuses directly after high school. And we have made it difficult for others to reenter the education system for the opportunities they need to grow as informed citizens, stay employed in the changing economy and advance on the job over a lifetime.

Today, we recognize the need for high expectations for *all* students. Everyone needs skills, a sense of responsibility and

"We cannot expect less of students and learners than will be expected of them once they enter the workplace and adult life."

What Employers Want

According to a report issued by the Business-Higher Education Forum, employers are looking for adaptability in their new hires:

✓ The flexibility "to respond to constantly changing business conditions"

✓ A high level of competence in basic skills, including oral and written communications

✓ The ability to work as team members and leaders

✓ Broad knowledge about different cultures

✓ The ability "to think in integrated ways and to move from substance and problem definition to mobilizing and implementing solutions."

"Cream of the College Crop Falls Short on the Job," *Work America*, the National Alliance of Business, December 1995, p. 3.

an opportunity for creativity if they are to succeed in a career and in life. We understand that students *can* learn at higher levels when they see the relevance of their learning and are responsible for their achievement. And we understand that *being educated is not a goal that can be reached at a specific moment in time but a process that occurs over a lifetime.*

'Trying On' Professions

A short time ago, I had the opportunity to visit the Village at Manor Park, a medical health-care facility in Milwaukee, where high school students are "trying on" the medical profession. These students want to become medical technicians, nurses, pharmacists and doctors. All of them said how much they had benefited from the chance to put their knowledge into practice and to experience the realities of working in the health field.

These students are taking care of patients. They are assisting the professional staff and are responsible for work in every part of the facility. As a result, student confidence is high: They are helping people. Most important, they are learning and maturing.

When I spoke with the students' parents, they told me how much this program had done to motivate their children and confirm (or change) their career choices. Their teachers told me the students are enthusiastic about learning and eager to start their day at the facility.

When I spoke with the high school principal, he told me this was not just valuable career-related learning for a few students. Instead, the whole school had raised its academic performance as a result of this program. Students, teachers and administrators are more focused on learning and performance, and together they are meeting stronger academic requirements and acquiring more extensive career exploration and work-based learning opportunities.

The experience convinced me once more that when it comes to student learning, we get what we expect. I believe students will fulfill their potential if we expect that:

- They will work hard and take responsibility for their learning.
- They will meet and exceed rigorous levels of academic accomplishment.
- Even at a young age they can benefit from the important process of thinking about and planning for their futures.
- They will make wise choices for the future if they are encouraged to "try on" different careers until they find the one that fits.

If these are our expectations for students, what are the realities? Too many students today arrive at the age of transition to the workplace or to higher education lacking basic academic skills. They do not have a clear sense of what careers are like and what they demand. Most students have experienced only a few career models: their teachers, people with visible jobs in the community and their parents. Unless we provide them with broader experiences, students may not understand the full range of options and opportunities available, and many will fail to reach their full potential.

Connecting Learning and Work

For these reasons, I have been working hard to establish and expand these objectives in Wisconsin. This is also why I chose the theme of Connecting Learning and Work as my 1995-96 chairman's initiative for the Education Commission of the States.

Connecting Learning and Work is designed to give learners greater knowledge and skills and a broader understanding of career options as well as the personal qualities they need for success and advancement. It motivates students to learn by connecting the classroom to real situations and to their futures. It encourages adult learners to return for further education and training and recognizes the need for continuous learning opportunities throughout their lives.

I also am committed to Connecting Learning and Work because it preserves the American Dream. Most of us are the descendants of immigrants who came to this country seeking opportunity and freedom.

This nation promised these earlier generations reward for honest effort. We owe the same to the next generation: a fair chance and the proper tools to succeed, be happy and move forward in personal and professional endeavors.

Today, essential tools include a good education, the challenge to meet high expectations, support in planning a meaningful career in a changing world and the best possible information about where the opportunities are and how to take advantage of them.

Some years ago, Alan Toffler wrote a book called *Future Shock* in which he talked about how different people respond to rapid change. Some people, he said, simply deny change is occurring. These people cling to the past and disengage from the present. Others, however, embrace change and actively participate in the world around them.

If we are to provide today's students with the skills and knowledge they need for a successful future, we cannot afford to ignore the changes occurring around us.

The Wisconsin Experience

Wisconsin is one of the nation's leaders in efforts to connect learning and work. For eight years, the state has focused on challenging students to meet high academic achievement goals and preparing them for lifelong learning and career success. Strong leadership was necessary to make this happen. So was the willingness of K-12 education, postsecondary education, business, communities and state government to take a different look at education and workforce preparation. The Wisconsin experience demonstrates the three major components of a successful system for preparing the workforce of tomorrow.

Career Exploration: Wisconsin schools have built career exploration into their curricula throughout elementary and secondary education. Students need to make more informed decisions about the skills and knowledge needed for additional education and the workplace. When students learn what is required in the working world, they better understand the need for strong mathematics, science and communications skills, as well as technical and work-readiness skills. Through career planning, students are able to select courses that allow for smoother transitions from high school to college or the job market.

Wisconsin's new *Career Centers* are one-stop shops for career information. The resources include interactive computer programs, job- related materials, career videos, brochures and a variety of other multi-media resources. These materials inform the student about appropriate courses to take in high school, recommend college or university education and training, and discuss the skills needed to succeed in various fields.

School-Based Learning: School-based learning builds upon the foundations of tech-prep programs by providing all students with the opportunity to learn challenging, high-level academic concepts in a concrete way. Subjects such as mathematics, science and communications are taught in ways that combine hands-on technology, critical-thinking skills (such as reasoning) and real-life applications. For example, in an electronics class, students learn chemistry and physics by understanding how a timing circuit works. Or, in English composition and business, instructors include a segment on writing a business plan. Students demonstrate success not only by what they know, but also by what they can do.

Work-Based Learning: Work-based learning includes experiences such as youth apprenticeship, cooperative education, internships and job shadowing. Youth apprenticeship and cooperative education programs involve high school juniors and seniors in experiences that combine school and on-the-job learning. Students are placed in part-time, paid positions while earning a high school diploma and an industry-approved skill certificate. They can take courses that apply toward technical college degrees or admission to the University of Wisconsin. Job shadowing and internships provide other opportunities for students to learn about careers, the working world, and the skills and knowledge needed to be successful.

What Employees Want

Based on survey results and an analysis by the Gallup organization, the following seem to be the most critical factors bearing on employee satisfaction and job performance:

- ✓ Employees have the opportunity every day to do what they do best.
- ✓ A supervisor or someone seems to care about them as people.
- ✓ Employees' opinions seem to count.
- ✓ Employees have opportunities to learn and grow.
- ✓ The mission of their employer makes employees feel that their jobs are important.
- ✓ Employees have the materials and equipment to do their job right.
- ✓ Employees' companies are "family friendly."

— Jeffrey L. Seglin, "The Happiest Workers in the World," *Inc.*, May 21, 1996, p. 66.

Connecting Steps: 1982-1988

1982

Job Training Partnership Act

This federal act involves employers and state agencies in providing workforce training programs for unskilled adults and economically disadvantaged youth.

1983

A Nation At Risk

The National Commission on Excellence in Education raises public awareness of the shortcomings of the American education system, citing falling test scores, increasing illiteracy rates and the growing need for remedial coursework.

1983

Action for Excellence

Based on findings from the Task Force on Education for Economic Growth, the Education Commission of the States warns that unless students receive more rigorous academic preparation they will not keep pace in a rapidly changing economy.

1985

The Neglected Majority

Dale Parnell of the American Association of Community and Junior Colleges, calls attention to tracking in the American education system. He reports that most schools encourage only those students bound immediately for college to achieve academic excellence, imposing inferior expectations on the majority of students not headed for college.

1987

Workforce 2000

The Hudson Institute suggests that increasing employee knowledge, productivity and skill levels is essential for continued U.S. economic success in the next century.

1988

The Forgotten Half

This report identifies the difficulties students have in making the transition from high school to work. It recommends better preparing non-college-bound students for the workforce and increasing their access to postsecondary education later in life.

1988

Massachusetts establishes the MassJobs Council as the nation's first statewide "super council" to oversee all programs affecting adult employment and training.

Connecting Steps: 1989-1994

1989

America's Choice: High Skills or Low Wages

This report argues the U.S. can either lower employee wages or increase employee productivity to remain economically competitive. To increase productivity, employees must raise their skill levels, and society must invest more in its human capital.

1990

Carl Perkins Vocational and Applied Technology Act

This federal act supports tech-prep programs — those that provide students with coordinated curricula in high school and college leading to an associate degree.

1991

What Work Requires of Schools: A SCANS Report for America 2000

Commissioned by the U.S. secretary of labor, this report identifies necessary employment skills and establishes employee proficiency levels.

1991

Wisconsin develops its statewide youth apprenticeship program.

1992

The New York Board of Regents and education commissioner appoint the New York State Curriculum and Assessment Council to propose integrated curriculum, instruction and assessment strategies. The council recommends basic workplace skills be woven into all curricula.

1994

School-to-Work Opportunities Act

The act supports three key components of statewide systems designed to prepare students for the workplace: (1) high academic standards, (2) integration of school- and work-based learning and (3) partnerships among schools, employers, postsecondary education and communities.

Connecting Learning and Work — *WHAT IS IT?*

"... [S]chools and colleges acting alone, employers acting alone, community organizations acting alone can never provide what it takes to give our young people the success we want for them and their children .... While you seek to integrate academic and occupational skills, integrate school learning with workplace learning, integrate secondary with postsecondary and lifelong learning, you also need to think about connections, synergies, about ways to bring together all of the talents and strengths that we have in this great country in great abundance.... We have, after all, only one goal. The goal is to produce competent human beings."

— Samuel Halperin, director, American Youth Policy Forum, *School to Work News*, Jobs for the Future, fall 1994.

Connecting Learning and Work is a powerful set of initiatives that combines education reform, workforce preparation and economic development to prepare individuals for a lifetime of learning, career success and citizenship.

It calls for all learners — those headed for higher education immediately after high school as well as those headed directly for the workforce — to meet high academic standards, have the opportunity to apply their knowledge to real-life situations and learn how to fulfill their career ambitions.

Connecting Learning and Work recognizes the increasing need for postsecondary education in many occupations and seeks to prepare all students for some form of postsecondary education during their lifetimes. It is based on the assumption that most students will reenter the education system sometime during their careers to update their professional skills. See the chart on pages 20 and 21 for an illustration of how students can progress through learning and work throughout their lifetimes.

By coordinating existing efforts in education reform and workforce preparation, initiatives to connect learning and work require schools, communities, state government, employers, colleges and universities, students and parents to become partners in fostering student success.

Common Elements

As the ECS document, *Profiles in Connecting Learning and Work: State Initiatives* demonstrates, education reforms that connect learning and work are being developed across the nation. Every state is moving forward on some or all parts of these initiatives. Although called by different names in various states (e.g., School to Work, Skills for the Future and School to Careers), state programs have six similar characteristics:

- Raising academic expectations for all students
- Documenting student achievement by performance assessments that lead to academic and skill certificates
- Providing meaningful career exploration opportunities for students in the workplace where they can apply their knowledge in real-world settings
- Coordinating state services for workforce preparation
- Building joint programs among K-12 education and two- and four-year college campuses
- Including employers, parents and the community in unprecedented roles as partners in the education process.

Taken together, these changes help shift the focus of education and education policies:

- From serving the interests of those who teach to meeting the needs of those who learn
- From learning abstractly to learning in applied modes
- From evaluation based on classroom time to assessment and certification of what students know and can do
- From schools as the sole site of learning to schools, communities and worksites as classrooms
- From funding by rigid budget categories to flexible funding across institutions and through local partnerships
- From education that ends at the classroom door to education that continues for a lifetime.

Questions About Initiatives
TO CONNECT LEARNING AND WORK

Because Connecting Learning and Work requires significant shifts in education and policy, it is possible to misunderstand how it is designed to serve students. Although the ideas behind these initiatives have taken root across the nation, questions remain. It is important to recognize what Connecting Learning and Work is, and what it is not. Several questions are asked repeatedly:

- ***Do initiatives to connect learning and work perpetuate the practice of "tracking" students?***

No. To the contrary, while some states and school districts still use "tracks" to separate students according to their plans after high school, states and schools implementing initiatives to connect learning and work promote high academic expectations and work-based learning experience for *all* students. Students who plan to work immediately after high school are expected to perform at the same level as those who plan to attend college after graduation. Ideally, education opportunities for students will not differ, only the points at which they choose to enter and reenter the education system and workforce.

- ***Do efforts to connect learning and work mean some students will be forced into vocational training programs at an early age?***

No. Initiatives to connect learning and work encourage students to advance through individual effort, not by determining at an early age who is suitable for postsecondary education and who is not. All students are encouraged to plan for postsecondary education, and evidence shows most students involved in these efforts further their education at some point. Students and their parents sign off on education plans that can be modified each year as the student's interests and/or needs change. (See the sample student portfolio on pages 10 and 11.)

- ***How do initiatives to connect learning and work differ from conventional vocational education?***

Unlike conventional vocational education, Connecting Learning and Work prepares students for lifetime careers, not for specific jobs that may change over time. Students are exposed to an array of careers in one or more industries of interest to them. Schools typically have identified these

Connecting Learning and Work and the History Major

Each June, graduates leave college to enter the workplace. How well do they do? This often depends on whether they make the right connection between formal education and employment opportunities. For example, a recent history major from a major public research university could not find work in his major field. Rather than settle for a job where he could not use his history knowledge, the student went to a private employment agency for interest and aptitude testing. As a result, he identified museum management as a target career, enrolled in a community college for further management training and is now happily employed.

How could Connecting Learning and Work have helped him? After career guidance and planning in high school, he could have entered the university with this goal in mind, taken the museum-management courses while enrolled as an undergraduate and left school prepared to start his career without the added expense of private counseling and additional tuition.

SAMPLE STUDENT PORTFOLIO

EDUCATIONAL PLANNING

HIGH SCHOOL ENROLLMENT PLAN

The student is taking courses that prepare the way for post-secondary education.

GRADE 9 1992-93		GRADE 10 1993-94	
SUBJECT		SUBJECT	
English B	(1)	English B	(1)
U.S. History B	(1)	Civics B+	(1)
Algebra C+	(1)	Geometry C+	(1)
Biology C+	(1)	Chemistry C+	(1)
French A-	(1)	French B	(1)
Art A	(1)	Art A	(1)
	(		(
Summer: Keyboarding	(1)		(
	(		(
CREDITS EARNED	(7)	CREDITS EARNED	(6)

In grade 12, having declared an interest in commercial art, the student takes computer design courses and attends a tech center in the afternoons.

GRADE 11 1994-95		GRADE 12 1995-96	
SUBJECT		SUBJECT	
English B	(1)	Computer Applications A	(1)
World History B-	(1)	English (AP) B	(1)
Art: Sculpture A	(1)	Speech/Comm C+	(1)
Calculus C+	(1)		(
Physics C	(1)	Tech Center:	( )
	(	Art - Graphic Design A	(3)
	(		(
	(		(
	(		(
CREDITS EARNED	(5	CREDITS EARNED	(6)

INDIVIDUAL CAREER FOLDER REVIEW

GRADE	DATE	STUDENT	PARENT	COUNSELOR/TEACHER
9	5/93	Casey Doe	J. P. Doe	Mary Jones
10	5/94	Casey Doe	J. P. Doe	Mary Jones
11	5/95	Casey Doe	J. P. Doe	Mary Jones
12	5/96	Casey Doe	J. P. Doe	Mary Jones

The student changes career major after exploring teaching as a career.

5/92 *My goal is to teach elementary school art.*

5/94 *My goal is to earn an A.S. in art design at the community college and then get a baccalaureate degree in art and become a commercial artist.*

BEST COPY AVAILABLE

CAREER PLANNING

EXTRACURRICULAR ACTIVITIES/STUDENT ORGANIZATIONS & CLUBS

	ACTIVITY	RESPONSIBILITY/OFFICE HELD
GRADE 9	*Future Teachers*	*Treasurer*
GRADE 10	*Art Committee* *Basketball Team*	*Chair* *Captain*
GRADE 11	*Youth Council, Lakeland Church*	*Vice Chair*
GRADE 12	*Junior Basketball Team*	*Asst. Coach*
GRADE 13	*Volunteer Teacher in Art, Lakeland Parks & Recreation*	
GRADE 14		

HONORS AND AWARDS

GRADE 9	
GRADE 10	
GRADE 11	
GRADE 12	*Prize for sculpture, Lakeland High School* *Summer grant, Lakeland Art Gallery*
GRADE 13	
GRADE 14	

IMPORTANT RESOURCE PERSONS AND AGENCIES

NAME OF PERSON/AGENCY	TELEPHONE #	RESPONSIBILITY/TITLE
W.J. Howell		*Coach, Lakeland Junior Basketball*
Rev. Howard		*Lakeland Church*
Leslie Carroll		*Director, Lakeland Art Gallery*
William Rolls		*Counselor, Lakeland High School*

WORK EXPERIENCE

COMPANY NAME	1 *Lakeland Elementary School*	2 *Lakeland Art Gallery*	3 *Lakeland Graphic Arts*
SUPERVISOR'S	*Carolyn Akers*	*Leslie Carroll*	*Howard Jones*
DUTIES	*teacher's aide*	*display assistant*	*part-time graphic assistant*
DATE/PHONE	*1993-94*	*Summer 1994, 95*	*1995-96*

The student "tries on" teaching as a profession.

The student "tries on" a second career choice.

The student works in the chosen field while attending school.

"It is neither possible nor desirable to simply attempt to build a German, Danish, English or Australian school-to-work transition system in the United States. However, . . . there are clear examples of systems that provide a broad-based education while also focusing on workforce preparation, and systems that have preserved local educational autonomy while implementing national standards."

— Anne Heald, Center for Learning and Competitiveness, College Park, Maryland, "Lessons from Abroad: Empowering Successful State Innovation," *Labor Notes*, 1993, p. 7.

industries according to career clusters in areas such as health, finance, technology, public service, engineering, travel and tourism, communications, construction and law.

- ***Does Connecting Learning and Work mean that business controls what students learn or limit student career choices?***

No. When schools and businesses work together to develop occupational standards for particular careers, they become partners in educating students. Neither one attempts to do the other's job. Because most students enter the workforce at some stage in their lives, students benefit from receiving up-to-date information on employers' expectations. At the same time, employers can tell school officials about gaps in student preparation. The goal is to broaden student options, not limit them. Schools still have primary responsibility for what students learn and for certifying what they know and can do.

Initiatives to connect learning and work also involve all groups in the community — teachers, faculty, parents, school administrators, community leaders and employers — in working together for the benefit of students.

- ***Does Connecting Learning and Work discourage students from traditional liberal arts education?***

Absolutely not! Many career pathways are enhanced by a liberal arts education that provides students with strong communication, creative-thinking and problem-solving skills. When a liberal arts education is combined with some work experience and effective career planning and guidance, students are in a much stronger position to find satisfying and rewarding careers and to lead well-rounded lives.

What's in a Name?

When interested parties gather to discuss Connecting Learning and Work, it is not long before someone asks the question, "What do we call it?" Many people find that the term "school to work" can be interpreted too narrowly, excluding, among other things, postsecondary education and lifelong learning from the debate. Different states have selected terms such as "Career Transitions," "School to Careers," "Skills for the Future" and "Connecting Learning and Careers."

Governor Tommy G. Thompson, 1995-96 ECS chairman, called his initiative, "Connecting Learning and Work" to emphasize the common themes and focus on the broad strategies for change that many state and local efforts demonstrate.

Efforts to Connect Learning and Work *ACROSS THE NATION*

All states are moving forward with initiatives that address some or all components of programs that better connect learning and work. While their particular approaches may differ — apprenticeships, cooperative learning, service learning, internships, school-based enterprises, etc. — state initiatives face a common set of challenges and needs. These include:

1. ***The need for new, collaborative relationships to give local partnerships of school and business leaders, students and parents the power to make decisions.***

For initiatives to connect learning and work to succeed, states may need to alter traditional relationships and work collaboratively with local entities and the private sector.

Alaska, Illinois, North Carolina and Texas, among other states, are consolidating human services, economic development and workforce preparation initiatives into human resource investment councils. Other states administer initiatives to connect learning and work through a gubernatorially appointed school-to-work task force or committee that includes private-sector representation.

Under both models, state and local involvement of the private sector and community leaders has proved essential to encourage the development of new partnerships. States that actively involve teachers, unions, parents and students in decision-making roles have achieved better public acceptance and commitment to efforts that connect learning and work.

2. ***The need for a shared understanding of what will be accomplished.***

Initiatives to connect learning and work give authority to autonomous local partnerships. These partnerships include representatives of state agencies, colleges, community organizations, employers, schools, students and parents. For these efforts to succeed, participants need to agree on expectations and outcomes, including academic standards, student skills assessment and local accountability.

To achieve this coordination, many states have passed legislation or instituted education policies that define an agenda for change.

In Massachusetts, the agenda is set out by the Education Reform Act of 1993, which calls for:

- A common core of learning that identifies what all students should know and be able to do

Human Resource Investment Council

A small number of states are developing Human Resource Investment Councils (HRIC) as one way to coordinate the myriad state and federal programs designed to help Americans get and stay employed.

HRICs consolidate job training, employment and employment-related education programs. In **Alaska**, the council merges the work of a number of groups and state and federally funded programs. Likewise, **Oregon**'s HRIC is charged with developing a comprehensive statewide workforce strategy.

Because workforce development programs are spread across a number of state agencies, the councils tend to be large and broadly representative. Membership includes representatives from state agencies such as labor, education, postsecondary education, employment and training, human services, commerce and economic development. Elected officials and representatives of business, labor and the community also participate.

"I believe the ability of policymakers to respond to the heartfelt concerns about education — which now plague our citizenry — rests with our skills to create a vision of what students need to know and be able to do, how those skills can best be measured, and how education can be provided so that each child gains the skills and knowledge needed to be productive citizens in this great country."

— Wisconsin Governor Tommy G. Thompson, Speech to the Education Writers Association, 1995.

- New curriculum frameworks, raised academic standards and a new student assessment system
- Easy transfer from secondary to postsecondary education
- New procedures for certifying and recertifying school personnel
- A new funding mechanism that supports autonomy at the local level and provides school-choice reimbursement, adult education funding, interdistrict equity in fund distribution and relief from certain budget regulations.

Other states have not legislated change. Nebraska, for example, has created a voluntary Alliance for Learning. The alliance provides coordination at the state level while encouraging local flexibility in design and implementation of initiatives to connect learning and work.

Regardless of the structure, states need to build agreement among local partnerships and schools if there is to be accountability and consistency across programs and within state policies.

3. ***The need for students to earn credentials that employers and postsecondary education institutions can accept as evidence of what students can do.***

With recognizable credentials, students can verify their knowledge, abilities and aptitudes for colleges, universities and employers, rather than simply what courses or degrees they have completed. Students, employers and postsecondary education officials will be able to rely on these credentials, however, only if states ensure they accurately reflect what students can do.

In Indiana, education, business, labor and government leaders agreed on Indiana Core 40, a single, flexible high school curriculum that, except for electives, is based on a set of agreed-upon competencies for all students. Starting in 1998, all high school graduates will be required to complete this core for admission to four-year institutions.

A number of states offer students academic certificates once they demonstrate attainment of a set of basic skills, usually in or about 10th grade. Workplace skills are similarly documented by such things as certificates of advanced mastery, workplace readiness or occupational proficiency, depending on the state.

4. ***The need for a system that serves all students, regardless of where they live or their plans after high school.***

High expectations are needed for all students. Students who lack strong foundation skills will be at a major disadvantage over their lifetimes. Connecting Learning and Work seeks to eliminate this disadvantage by giving all students the opportunity to succeed.

The Michigan Educational Employability Development Plan, for example, provides a mechanism for planning, developing and documenting achievement. The goal is to improve the long-term competencies of youth, whether the student plans to end schooling at grade 12 or to go on to further education. Starting in the 8th grade, student competencies and career preparation are documented in student portfolios.

Serving students in rural areas is a particular challenge, requiring ingenuity and determination. In North Dakota, for example, students successfully revived a defunct local newspaper and now write, edit, publish and sell advertising for it. Students also are employees and managers of a hardware and lumber business created by a consortium of businesses, community agencies and their school.

5. ***The need to strengthen relationships between K-12 and postsecondary education.***

Most states report strong two-year and technical college involvement in efforts to connect learning and work. In some states, these campuses appear to be the primary postsecondary representatives. Four-year campuses are most likely to be involved in: (1) reviewing teacher education and professional development programs, (2) reexamining admissions policies and (3) creating agreements that allow students to transfer credits from two-year campuses to

four-year campuses without duplicating coursework.

In some states, however, postsecondary education's involvement has been much richer. In those states, four-year campuses assist states with training workplace mentors, curriculum design, evaluation strategies and counselor training. In California, Colorado and Georgia, for example, higher education institutions are collaborating on plans for a curriculum that forms a "seamless web" — a planned progression of learning that builds from kindergarten through baccalaureate degree (called P-16 in Georgia, K-14, K-16 or K through adult in other states).

Already existing tech-prep programs, built on 2+2 concepts (a program built across two years of high school and two years of community or technical college), are being joined by programs such as 2+2+2 (high school+two-year college+four-year campus) or 2+4 (high school+four-year college) programs. These programs provide students with career "pathways" as they move from one institution to another. Many schools offer students choices among a diverse array of occupations within an industry, while simultaneously providing them with a strong academic foundation.

In most states, however, high school and community college relationships with four-year campuses are, as one person put it, "in the embryonic stage." Building relationships among schools and two- and four-year campuses will be a critical area of development for states over the coming years.

6. *The need to include employers as partners in education.*

Most states are considering or have implemented incentives to attract employers as participants in order to accommodate student demand for work-based learning sites.

State and regional committees and councils generally include employer recruitment among their missions. In addition, some states are examining or implementing incentives such as tax credits, protection from liability and provision of technical assistance for worksite mentoring.

In Hawaii, legislation releases employers from liability by identifying the state as the employer when students participate in internship programs. This step grants private businesses immunity from worker's compensation claims for these students. Georgia is encouraging employers to form a 501(c) corporation for the same reason.

7. *The need to prepare educators for teaching in ways that connect learning and work.*

Teacher preparation and retraining are essential components of education reform of any type, including Connecting Learning and Work. Where teachers are involved in these initiatives, schools report renewed excitement and commitment to the profession.

Connecting Learning and Work requires new instructional methods. In particular, it means providing students with more opportunities to learn theoretical material through hands-on, real-world examples in the classroom and through learning experiences in the worksite. This requires a different form of teacher preparation.

"[Connecting Learning and Work] means providing students with more opportunities to learn theoretical material through hands-on, real-world example."

In Rhode Island, postsecondary institutions are collaborating to redesign teacher preparation programs for new applied-learning classrooms. The new structure will include general awareness of Connecting Learning and Work for all education majors. It also will incorporate field-study site visits into every course on teaching methodology, encourage teachers to help students apply what they are learning to real life and make teachers aware of school-based education/business partnerships.

In Pennsylvania, a network of teacher centers has become an important vehicle for reform. The centers' professional development plans feature teacher-to-teacher training, observation and evaluation, strategies for interdisciplinary instruction, links to employers and postsecondary institutions, and training in leadership and decision-making skills.

8. *The need to hold local and regional partnerships accountable.*

Holding schools and other participants responsible for student success is an essential component of Connecting Learning and Work.

States need to ask different questions than they have in the past. Rather than asking schools how many students graduate, for example, they can ask: How many students graduate prepared for college or the workplace? Rather than asking how many math classes a student must take to graduate, they can ask: How many students understand and can apply the Pythagorean theorem? More broadly, states can ask: What is the student gaining? What are the taxpayers getting from their investment?

Similarly, states need to evaluate the effectiveness of local efforts. Minnesota, for example, will use a system called "Plan, Do, Check and Act" to analyze curriculum and instruction, marketing, student assessment and evaluation, and support services and counseling. Within these areas, the evaluation will look at overall planning, staff development, service to all learners, integration of career preparation and academic instruction, collaboration among key agencies, partnerships and program evaluation.

Other states also are attempting to build evaluation strategies for continuous improvement over long periods of time. Kentucky, for example, is developing state performance benchmarks, customer satisfaction surveys and one-, five-, and 10-year follow-up for students.

9. *The need for state leadership and individual responsibility.*

Connecting Learning and Work is "bottom-up" education reform. It empowers local communities and schools to assume primary responsibility for preparing students to become caring family members, thoughtful citizens, effective employees and active participants in our communities.

All too often, government agencies have hampered local communities by being too "top down." New ideas to serve students have withered under the burden of regulation and bureaucracy. To counter this, initiatives to connect learning and work encourage states and communities to develop creative forms of state leadership and innovative approaches to collaboration and partnership. These initiatives challenge states to build state coordination that does not turn into centralization and to fund and build local accountability.

State leaders can help the process by asking: What more can state agencies do to help prepare students for futures that differ significantly from those of their parents? How can states build visionary leadership, better coordination, stronger partnerships,

Evaluating Progress

With funding from the **Washington** Superintendent of Public Instruction's Office, the Northwest Regional Educational Laboratory (NWREL) evaluated the use of state funds in creating 33 local school-to-work initiatives. NWREL asked local school-to-work coordinators to rate their success in:

- Integrating vocational and academic learning
- Developing multiple education and career pathways for students
- Providing students with career, personal and academic guidance
- Establishing student performance expectations and developing assessments to measure performance
- Creating local partnerships with employers, labor unions and community leaders
- Involving educators actively in school-to-work activities.

Because all 33 local coordinators responded to the survey, NWREL was able to see what is working and what requires attention. The state plans to use these results to improve local implementation of school-to-work efforts, upgrade service to students and follow up with additional evaluations every five years.

— Washington Superintendent of Public Instruction, *Final Report to the Legislature on the School-to-Work Transitions Program*, December 1995.

A Call to Action . . .

Governors, legislators, business and labor leaders, agency heads, educators, community leaders, parents and students all have important roles to play in defining and sustaining the collaborative relationships required in initiatives that connect learning and work. The core of these efforts cannot be built without the commitment and wisdom of the many partners.

In particular, state coordination is needed to support and integrate the innovation and change brought about by Connecting Learning and Work: high standards for all students, ability to apply classroom learning, work-based learning, new student performance assessment and credentials, revamped teacher education and professional development, links with and changes within postsecondary education and the use of the community as an extended classroom.

States such as Wisconsin have demonstrated that leadership and coordination are crucial to connect learning and work. Even when exercised in different ways, state leadership is essential for establishing and maintaining the local partnerships that lie at the heart of effective state initiatives.

This section outlines these changes in roles and responsibilities and suggests ways in which new partnerships to connect learning and work can be implemented and fostered. If education is to provide all students, from kindergarten through adulthood, with opportunities to excel, then state leadership must promote a coordinated network of services that stretches across state agencies, into the community and into the schools.

A Call to Action for Governors

Describe a vision for education that prepares students and adult learners to succeed in careers and as citizens:

- ✓ Provide leadership to develop high, consistent standards for all learners.
- ✓ Work with legislators, agency heads and other policymakers to make education a field of teamwork.
- ✓ Involve employers, unions, communities and others in important education roles at the state and local levels.
- ✓ Promote the principle that education requires continuous evaluation and improvement, not quick fixes.

. . . FOR STATE LEADERS AND POLICYMAKERS

Many current state policies and practices need to change in order to remove existing barriers between classrooms and workplaces. Leadership and coordination are what often make the difference between success and failure in these efforts. State actions are crucial to support and energize the many local and regional partnerships that are at the heart of connecting education, the workplace and the community.

State leaders can work with agency heads and others in policymaking positions to coordinate programs and responsibilities, link state initiatives to local, regional and private-sector efforts and create a systemic reform effort rather than piecemeal programs.

All states are taking steps to ensure better connections between learning and work. Governor after governor focused on the importance of education in their 1996 State-of-the-State addresses. Legislators increasingly are advocating clearer purposes and more accountability from education.

Building on these starting points, state leaders and policymakers can exercise leadership in several specific areas:

- ***Define a vision for education in which all students succeed and contribute directly to society.*** Education should be viewed as a diverse set of learning opportunities to help all students to succeed in their careers and in their lives as a whole. Political leaders, beginning with governors, play key roles in building that vision in the minds of students, state officials, teachers, parents and others. The power of a positive "bully pulpit" should not be underestimated, particularly the power of a vision so closely linked to the future success of students, families, communities and businesses.

A Call to Action for Legislators

Create a comprehensive system of education and training:

✓ Establish a legislative study committee or council to ensure legislative actions are linked to agreed-upon statewide goals, economic needs and community resources.

✓ Coordinate sources of support for initiatives that connect learning and work.

✓ Change state appropriations for education by eliminating such practices as categorical funding.

A Call to Action for State Agency Heads

Work toward cultivating collaboration among state agencies and local organizations:

✓ Work with other state agency and education leaders to address state needs for education standards, curriculum frameworks and assessment measures.

✓ Help form and lead state-level human resource investment councils or other coordinating bodies.

✓ Work closely and openly with legislative leadership and local officials.

✓ Provide clear public information and understanding of state initiatives.

- ***Insist on clear expectations for individual student performance and accountability for schools, colleges and universities.*** Connecting Learning and Work is a commitment to provide all students with strong academic skills and knowledge to prepare for a variety of career options. Turning this vision into reality will require strong public leaders — leaders who are not afraid to push for reform and work to develop the public understanding and support necessary to change existing perceptions, policies and practices.

- ***Build teamwork among state agencies.*** Government agencies need to collaborate in order to reach agreement on state and/or local expectations for education, workforce preparation and economic development. In an effort to bridge these initiatives, many states are setting up councils to coordinate human services, economic development and workforce-preparation initiatives. Others are using legislation to coordinate initiatives, and several are moving ahead with voluntary alliances.

- ***Invest public resources wisely and effectively.*** Current budget procedures often discourage collaboration between K-12 academic and vocational teachers; among schools, two-year and four-year campuses; and across public agencies and private enterprises. State leaders can promote interagency cooperation by funding programs across sectors and institutions and providing financial incentives for change.

- ***Hold local partnerships accountable to their constituents and communities.*** If initiatives to connect learning and work are to succeed, local partnerships need autonomy and responsibility. At the same time, this decentralization of responsibility can succeed only if partners understand and agree on issues related to curricula, standards, certification, benchmarks and career guidance. Whatever the basis for decentralization (legislation, board policy or a voluntary alliance), state leaders will need to hold local partnerships accountable for student accomplishment. By holding partnerships (rather than schools alone) responsible, state leaders can build teamwork across the community.

MOTIVATING Rather Than Mandating Change

Nebraska has opted for a voluntary alliance rather than legislation or executive order in creating a system that connects learning and work. To accomplish this alliance, Nebraska conducted meetings across the state to develop a shared vision and gain commitment.

The state's initiative is overseen by the Nebraska Industrial Competitiveness Alliance, a 28-member advisory board appointed by the governor. Three pilot school programs have been developed, and the state plans to disseminate these programs to local sites once the partnerships demonstrate their readiness to implement them.

The alliance is based on four career pathways: apprenticeship, tech prep, cooperative education and career preparation. Work is under way to establish 2+2+2 programs.

In 1995, when Nebraska awarded funds to its local partnerships, the state requested a 50% match in local funds. In fact, the partnerships were able to provide a 200% match.

. . . FOR PARENTS AND STUDENTS

Once considered primarily activities for the young, education and learning have become necessary for individuals of all ages. Changes in the economy and society have made knowledge one of our nation's most important resources. As a result, each of us — as citizen, parent, employee and/or entrepreneur — increasingly must play the role of learner.

As learning becomes an integral part of adult lives, K-12 students must recognize that schooling is only the first step in their preparation for adulthood. They no longer can regard education only as a series of goals — high school graduation, college entrance, college graduation. Instead, they need to know education is a lifelong cycle of learning, working and living. This new perspective requires students, with the help of their parents, to:

- ***Call for a relevant and meaningful education.*** To be successful adults, students need not only a strong academic background but also the ability to apply their knowledge to real-world situations and develop skills relevant to the tasks they wish to complete. They need to understand how their education relates to their interests and how it will prepare them for the future.
- ***Recognize the validity of lifelong learning.*** Not all students will pursue postsecondary education immediately after high school. In some career paths, it may be important to gain workplace skills before entering or while participating in postsecondary education. Students who exercise this option should insist that postsecondary education accommodate their needs, as well as those of traditional students. Adult learners must communicate to colleges and universities the need for courses and services to be offered at times and places convenient to nontraditional learners.
- ***Understand the importance of career plans and portfolios in documenting student interests.*** Career plans provide

A Call to Action for Students

Develop your interests and recognize your needs:

- ✓ Understand what schools, colleges, universities and employers expect of you and why.
- ✓ Recognize multiple pathways to success and search for the pathway that best fits your needs.
- ✓ Recognize the value of learning and prepare yourself for postsecondary education and training.
- ✓ Start planning your career early and continue planning throughout your life.
- ✓ Complete portfolios of your projects, interests and work experience to demonstrate your knowledge, skills and abilities.
- ✓ Inform your teachers, guidance counselors and mentors if they are not meeting your needs.
- ✓ Take advantage of work-based learning opportunities.

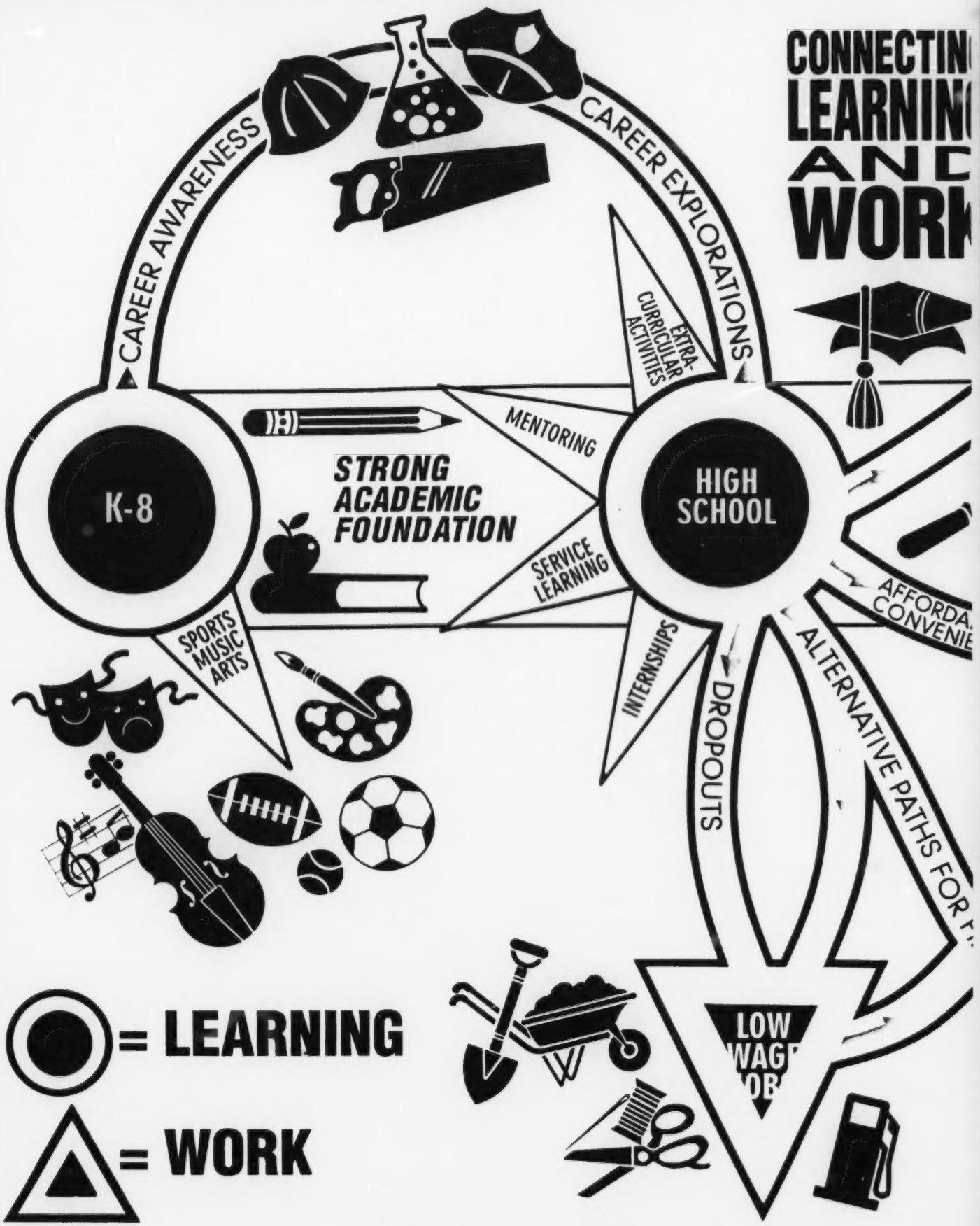
GIVING Purpose to Education

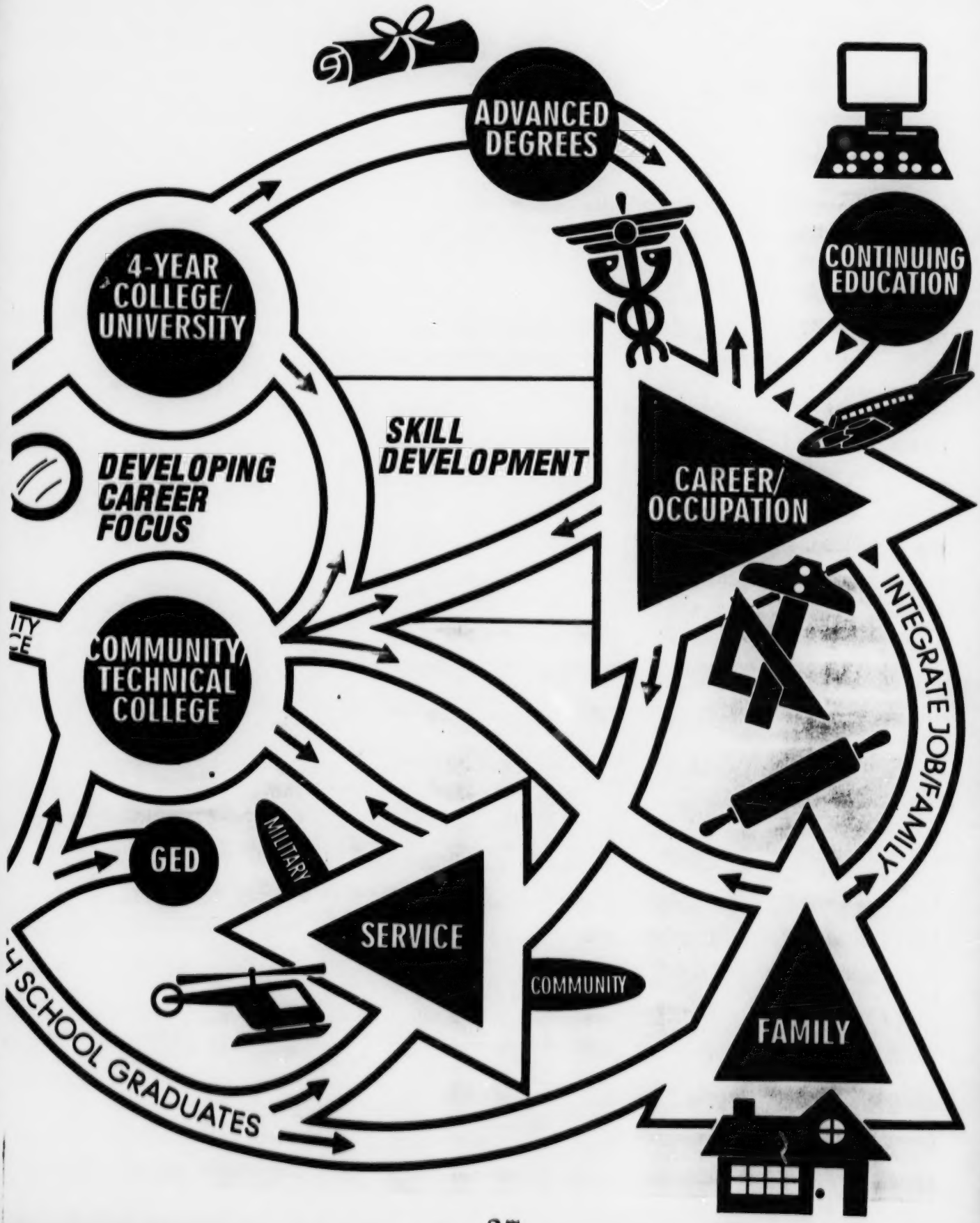
The Audrey Cohen College System of Education® works with 20 public schools in five states to integrate classroom learning with community activities.

In San Diego, the Louisa May Alcott Elementary School identified *We Work for Good Health* as the focus for all 4th graders. These students researched types of health specialists and health-care facilities in their community, interviewed health-care professionals, invited community experts to speak at their school and organized a Health-Care Symposium for the community. In addition, they built upon their 2nd-grade theme, *We Use Government To Improve Our Community*, to write to the U.S. surgeon general about national health issues.

Building on 30 years of experience, Audrey Cohen College has developed 24 "Purposes" or themes for students in grades K-12. By providing students with these opportunities, the college hopes that "young people [will] come face-to-face with role models in a variety of fields and. . . experience the excitement and fulfillment of seeing the relevance of their academic studies in the world outside their classroom."

— Audrey Cohen College, *The Audrey Cohen College System of Education and Community Connections*, 1996.


CONNECTIN
LEARNIN
AND
WORK
CAREER AWARENESS
CAREER EXPLORATIONS
EXTRA-CURRICULAR ACTIVITIES
MENTORING
STRONG ACADEMIC FOUNDATION
K-8
HIGH SCHOOL
SERVICE LEARNING
SPORTS MUSIC ARTS
INTERNSHIPS
DROPOUTS
ALTERNATIVE PATHS FOR
AFFORDA
CONVENIE
LOW
WAG
OB
= LEARNING
= WORK


ADVANCED DEGREES
CONTINUING EDUCATION
4-YEAR COLLEGE/ UNIVERSITY
SKILL DEVELOPMENT
DEVELOPING CAREER FOCUS
CAREER/ OCCUPATION
COMMUNITY/ TECHNICAL COLLEGE
INTEGRATE JOB/FAMILY
GED
MILITARY
SERVICE
COMMUNITY
FAMILY
SCHOOL GRADUATES

A Call to Action for Parents

Take an active role in your child's education:

- ✓ Set high expectations.
- ✓ Understand what students must do to succeed on the job and in postsecondary education.
- ✓ Help your child make more informed career choices.
- ✓ Participate in planning for your child's postsecondary education.
- ✓ Get involved with your child's school.
- ✓ Consult with teachers, guidance counselors and administrators on how your child is doing and how you can help.

students with initial direction and purpose for learning. They are the compasses that lead to well-chosen career areas and satisfying life choices. By documenting achievements and capabilities, portfolios help students match their interests to career choices.

- ***Work with parents, mentors and teachers to shape career plans***. Students cannot plan for careers in a vacuum. Conventionally, schools have provided students with only limited career guidance. But the growing complexity of our society and job market requires students to receive up-to-date information on career and postsecondary education options, as well as guidance on the education and training needed for various careers.
- ***Become involved in helping schools strengthen and evaluate programs that connect learning and work.*** Schools must work with students and their families to determine how best to serve individual students' academic and career needs. Student performance reports should be clear, and help should be readily available for students who need extra time in attaining high academic or skill standards.

. . . FOR SCHOOLS, SCHOOL BOARDS and COMMUNITIES

Changes in public expectations for K-12 education reflect the growing demands placed on students and their families by the economy and society. These changes require K-12 education to provide more to students than it did even a decade ago. Education needs to prepare *all* students for challenging work environments, postsecondary education, lifelong learning and effective participation in a changing workforce.

To meet these expectations, school staffs, working with community members, must reconsider how they teach, advise and prepare students for the future.

Specifically, schools and communities need to:

- ***Provide strong academic preparation for all students.*** *All* students must master fundamental skills to succeed in the workplace. Without a strong grasp of reading, writing, mathematics and other academic subjects, students will not be able to build satisfying lives, including careers. Students who lack strong academic preparation will be unable to pursue postsecondary education, which is becoming increasingly essential for many career paths.
- ***Help all students prepare for both college and the workplace.*** In years past, educators could differentiate between the knowledge and skills needed to succeed in the workplace and those needed to succeed in college. Today's jobs, even those obtained directly out of high school, increasingly require highly skilled employees who can work in fast-paced, complex settings and assume substantial responsibility. To adapt to changes in their professional and personal lives, all students will require both strong academic and career preparation.
- ***Provide students with opportunities to develop applicable workforce skills.*** Work experience and career exposure help students learn how to apply classroom theory to real-world problems. Students need time, opportunity and guidance to develop skills they will need in the job market.

A Call to Action for School and District Leaders

Set the tone for positive reform:

- ✓ Listen to parents, employers, community leaders and postsecondary education leadership they can contribute to the discussion of what students show know and be able to do..
- ✓ Ensure all students have strong academic skills and work experience.
- ✓ Work with local service agencies to ensure the needs of *all* students are met.
- ✓ Work with employers to create credentials they and colleges will accept.
- ✓ Encourage teachers to build applied-learning opportunities into their teaching.

RAISING Expectations

In anticipation of state legislation requiring local standards, several Colorado school districts began developing academic standards in the late 1980s. Results have shown dramatic improvement in student performance, including:

- In 1987, a district in Colorado's San Luis Valley began requiring students to meet more rigorous academic standards. Between 1987 and 1994, the percentage of students passing the Adams State College Proficiency Examination (which measures the writing skills of first-year college students) rose from 33% to 72%.
- In the Colorado Springs area, the percentage of 11th graders receiving a "proficient" or "advanced" rating on a locally developed writing exam increased from 60% in 1989 (prior to standards) to 90% in 1994 after standards were implemented.
- In Loveland, 10th-grade writing scores improved in three out of four areas only one year after implementing standards.

Although the results are still preliminary, Colorado's experience suggests that students perform better when they understand clearly what is expected of them.

A Call to Action for Teachers

Reach out to every child:

✓ Encourage students to achieve high academic standards and career credentials.

✓ Integrate both academic and occupational objectives into your classes.

✓ Take advantage of professional-development opportunities that demonstrate how to use applied-learning techniques in your classroom.

✓ Take responsibility for your students' performance, not only in your classroom but also in their academic and workforce preparation.

✓ Take advantage of work-based learning experiences for teachers. They can provide you with relevant examples for your classroom.

A Call to Action for Guidance Counselors

Help all students identify a sense of real-world purpose and direction:

✓ Ask employers for up-to-date information on job opportunities and skill requirements for students.

✓ Keep parents informed of the children's interests and options.

✓ Help students match their strengths and interests to career opportunities.

✓ Take advantage of work-based learning experiences for educators and counselors.

Develop assessment measures that accurately gauge student learning. As educators better understand the value of integrated and applied learning in helping students master academic material, they must reevaluate not only how they teach but also how the education system evaluates student progress. The current education system frequently relies on multiple-choice exams that test students' ability to recall details rather than their understanding and demonstration of a subject area or how it relates to their lives.

Collaborate with parents, community and technical colleges, four-year institutions, employers and state leaders. Successful efforts to connect learning and work require collaboration among local- and state-level partners. They require the integration of education and workforce programs and call on parents, educators, community leaders, employees, employers, political leaders and state government employees to establish more active and collaborative roles for themselves in serving student needs.

Provide career guidance to all students throughout their education. In years past, guidance counselors typically have focused on helping students prepare for postsecondary education. Career guidance became a secondary function and often was limited, even for those students who planned to enter the workforce immediately after high school. In a rapidly changing economy, all students need to understand early what career opportunities are available and what, if any, additional education they will need. By working together, schools and communities can help students make informed decisions, develop career goals, and gather and interpret labor market information.

. . . FOR COLLEGES, UNIVERSITIES and COMMUNITY COLLEGES

Changes in education and the economy are compelling all sectors of postsecondary education, including traditional colleges and research universities, to rethink their missions and services. As K-12 education systems teach students to apply their learning outside of school and focus on career preparation, students will carry these same expectations into college, technical education and other postsecondary options.

As more jobs require lifelong learning, many adults will seek postsecondary education to advance their careers. Colleges and universities, community colleges and technical institutes will need to redesign programs to meet these needs.

Several states already are working to establish career pathways that start in high school and continue through some form of postsecondary education or training. In other states, higher education institutions are using their resources to assist K-12 education by evaluating the effectiveness of Connecting Learning and Work, both at the state and local levels.

To address these challenges, leaders of colleges, universities, community colleges and technical institutes need to:

- ***Collaborate more effectively with K-12 education***. Two- and four-year institutions need to work with K-12 education to develop a ladder of consistent academic and skill expectations throughout the education system.
- ***Personalize instruction to meet student learning needs***. Like primary and secondary schools, colleges and universities need to recognize that many students benefit from a curriculum that helps them use what they learn in the classroom. Few students learn as well in large lecture classes as they do in small, interactive settings, whether held on campus or at a worksite. As students and teachers become more accustomed to applied learning, colleges and universities may want to reassess their teaching techniques, redesign curricula and incorporate new innovations in technology that may provide cost-effective methods for teaching students in a more personalized manner.
- ***Redesign admission policies to recognize alternative ways for students to demonstrate readiness for college.*** College-admissions criteria will need to reflect changes in high school curricula and graduation requirements and to recognize student portfolios and other performance-based assessments (such as exhibitions) as legitimate indicators for success in college. Applications for college admission most likely will include analysis of what students can do, as well as their scores on tests. "Seat time," i.e., time spent in a classroom, is likely to take a back seat to performance.
- ***Coordinate teacher preparation and professional development programs with changing elementary and secondary school needs***. Colleges and universities are the source for new teachers and the center of continuing professional development for current teachers. Most students learn best when they can apply their learning to real-life settings, and teachers need to supplement traditional teaching strategies with applied-learning techniques. Colleges and universities need to reexamine and redesign teacher training and professional development programs to take into

A Call to Action for College and University Leaders

Restructure the culture and practices of higher education to reflect students needs and public priorities:

- ✓ Redesign faculty reward systems to recognize teaching and student service as the institution's primary responsibilities.
- ✓ Ask employers to evaluate college curricula. Without relevant coursework and skills, graduates will be unprepared for work.
- ✓ Build working agreements with schools to provide more students with access to postsecondary education and avoid duplicative coursework.
- ✓ Support assessment systems that provide continuous feedback on student learning and institutional performance.
- ✓ Where appropriate, focus institutional priorities and resources on preparing the next generation of teachers and counselors.
- ✓ Listen to the consumers. Adult learners need courses scheduled that do not conflict with work or personal commitments.

A Call to Action for Faculty

Help students understand and apply knowledge in their lives:

- ✓ Look for ways to integrate contextual learning into classrooms, research and the curriculum.
- ✓ Accept responsibility for student learning in the college classroom and as a part of the institutional mission.
- ✓ Address the concerns of students and parents about how college contributes to successful careers.
- ✓ Build career exploration and knowledge application into the curriculum.
- ✓ Encourage students who excel in school to consider teaching as a career.
- ✓ Work collegially across disciplines to design career pathways and performance-based credentials.
- ✓ Integrate technology more effectively into teaching and learning.

account research on effective teaching and learning styles, new standards and performance assessments, and the use of technology.

- ***Restructure institutional missions and academic programs to include workforce preparation.*** Like K-12 education, colleges and universities need to accept workforce preparation as part of their missions. They no longer can rely on a college degree to guarantee their students employment or employability, nor should students or states expect colleges alone to provide them with this assurance. A recent New Jersey survey found that businesses considered only 6% of their entry-level employees with associate's degrees and only 14% of those with bachelor's degrees to be highly prepared for their jobs. Unless colleges and universities integrate work-based learning into their curricula, college graduates will continue to enter the workforce underprepared.
- ***Provide career guidance that recognizes multiple paths to career success.*** College students need good career guidance as much as high school students. This guidance and information should be built into the curriculum rather than being left as an afterthought at the time of graduation. In particular, college students need to know how to coordinate their interests with the opportunities available to them in college and in the job market. Good career guidance, internships and other work experiences can help students determine which career areas are expanding or contracting, which jobs best match their interests and capabilities, and whether employability in their field requires advanced education.
- ***Address needs of nontraditional students.*** As students and employees continue to demand more postsecondary education at various points in their careers, colleges and universities will need to develop new mechanisms for meeting the demands of nontraditional students. Some adults will pursue postsecondary education full time after entering the workforce. Many will take courses to upgrade career skills and knowledge while they are in the workforce. As postsecondary education and the workplace become more intertwined, colleges and universities must accommodate working students who need to take courses during non-work hours or at locations other than a college campus.

LOOKING Beyond Grades and Class Rank

Oregon and **Wisconsin** are well along in developing proficiency-based admission standards for their public postsecondary institutions, with other states looking closely at how these new admission criteria will work.

In Oregon, students will be expected to demonstrate proficiency in core academic areas as well as performance across relevant skill areas such as teamwork, using technology, problem solving and communication. The new admission criteria will build directly from the Certificate of Initial Mastery (in academic areas) and the Certificate of Advanced Mastery (in career areas) (see "Key Words" for explanation).

In Wisconsin, the university system is pilot testing parallel, competency-based college admission criteria, under which students can qualify for admission to all public institutions when their preparation has included work-based learning and performance assessments in place of conventional courses and testing.

As in Oregon, the Wisconsin initiative is a direct response to changes in high schools and the workplace. As such new admission criteria are implemented and proven, other states are likely to augment or replace conventional course requirements and test scores as well.

- ***Build active and creative partnerships that serve state and community needs.*** Postsecondary involvement in efforts to connect learning and work varies across the nation. Community and technical colleges typically are involved most directly through career programs and in education consortia. College and university representatives have served on state school-to-work coordinating committees and have played roles in evaluating and supporting Connecting Learning and Work. Many are reexamining teacher education or working collaboratively on standards development or college admission standards. College and university leaders and faculty must play a stronger role if efforts to connect learning and work are to extend through a student's entire education.

Higher Education as an Active Partner

In May 1996, the **Illinois** Board of Higher Education approved a "Collaborative Action Plan" adopted in conjunction with the Illinois Community College Board, the State Board of Education and the Department of Commerce and Community Affairs. Building upon prior initiatives, the new plan commits the state's higher education leadership and others to six goals:

- High standards for academic, technical, professional and employability skills for *all* learners
- Continuous upgrading of education and skills of current employees
- Significant enhancement of career information and training opportunities
- Smoother transitions from education and training into the workplace
- Better connections between classroom and workplace learning throughout the education and training system
- Assuring the quality, efficiency and accountability of all workforce development programs.

The plan spells out specific steps for all partners in implementing each goal. Progress will be monitored and reported regularly to partners as well as the public, legislature and other interested parties.

A Call to Action for Postsecondary Students

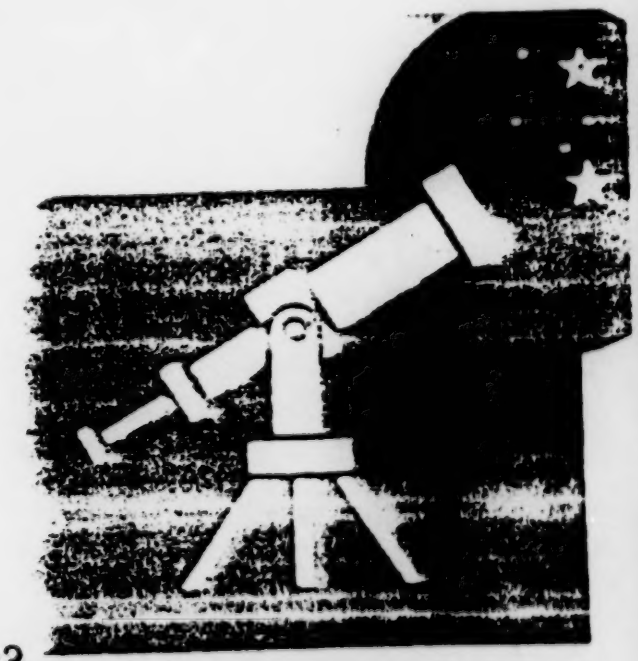
Maximize your post-high school options in order to integrate continued learning into your career.

✓ Consider your future career goals as you plan your coursework. Seek relevant job skills and training.

✓ Visit employers, seek internships and use work experiences as a way to learn as well as a way to finance your college education.

✓ Do not limit your job search to the work within your major. The jobs in sociology may be few, but the opportunities for good sociologists may be many.

✓ Learn on your own as well as in the classroom. Insist that faculty take outside learning into account and that colleges acknowledge work experience as valuable.



. . . FOR EMPLOYEES, EMPLOYERS and BUSINESS LEADERS

As employers of our high school and college graduates, businesses and organizations have crucial roles to play in efforts to connect learning and work. Employers can provide information on student performance outside of the classroom. They can verify first-hand how well students understand fundamental academic subjects, how well they can apply their school knowledge to the work setting and how prepared they are for pursuing their career goals. And they can provide work-based learning experiences and current information students need to plan their careers.

The challenges to business involvement, however, are considerable. In many states, corporate leaders have been highly involved, but managers and employees less so. In some states, employers have been active at the local level but have not participated in state efforts. Elsewhere, it has been a challenge to involve small businesses in particular.

If efforts to better connect learning and work are to succeed, employers, employees and business leaders need to work with students, parents, educators, community leaders, and state and local policymakers in the following ways:

- ***Provide feedback to help education institutions improve.*** Employers need to provide schools, colleges and universities with information on how students perform in the workplace. Without this information, educators will have difficulty designing curricula that meet students' academic and workplace needs or assessing student performance once these curricula are in place.
- ***Help states create economic-development plans to ensure students receive accurate information as they begin to plan careers.*** Business needs to work with higher education to help state and local leaders design effective economic development plans. Through forecasting, market research and economic analysis, business can help states and communities plan for economic growth and provide students with related information they need to develop workplans for their careers.
- ***Create public support for Connecting Learning and Work.*** As employers of parents with children in the local school system, businesses can help keep students and parents informed about the successes and shortcomings of schools,

A Call to Action for Business Leaders

Act as a catalyst for change in education and in the way you do business:

✓ Set education as a primary goal and responsibility for the business community.

✓ Serve on local and state steering committees or boards striving to connect learning and work.

✓ Identify what skills and knowledge you expect students to bring with them to the job.

✓ Assist local communities and state government in establishing high expectations for student performance.

✓ Keep policymakers and educators informed about changes in the workplace and future workforce needs.

✓ Insist on high skills among new hires and be open with students, schools and colleges when graduates do not meet these expectations.

MENTORS: Advocates for Student Success

Missouri's Pattonville High School offers students the opportunity to participate in *Practical Education Now*, a partnership with the Edward Jones Company. High school students work in the afternoons, learning about stocks, bonds, mutual funds and other investments as well as gaining experience in human relations, communications, office technology and other workplace skills. Following high school, most students work at Edward Jones either full or part time while attending college.

In **Rochester, New York**, mentors start working with students as early as middle school. Students at School No. 2 are paired with employees from Eastman Kodak Company, Highland Hospital and the University of Rochester. Bob Babcock, 6th-grade teacher, says mentors reinforce classroom learning by showing students how to use academics in the workplace. In addition, Babcock notes, "The mentors become advocates for the children by asking them how they're doing in school and how things are going at home. That in itself is very valuable."

— Interview with Sheila Reed, Pattonville School District, Missouri.

— Spangenburg, Cathy. *Implementing a School-to-Work Transition System: A Rochester, New York, Case Study*, National Center on Education and the Economy: April 1995.

colleges and universities. If education is going to have the momentum to carry out this reform, businesses must continue to raise public awareness and garner public support.

- ***Provide worksites and mentors.*** Outside the classroom, employers play key roles in providing students with work-based learning experiences. In rural areas or in school districts with limited business opportunities, employers can help develop technology that will simulate work experiences. They also can help schools create school-based, student-run enterprises, such as a student bookstore, that provide business experiences on campus.
- ***Assist schools, colleges and universities in developing integrated curricula.*** Students must increasingly apply what they learn in the classroom to their jobs and to other aspects of their adult lives. Employers can assist teachers and faculty members in developing curricula that integrate both academic knowledge and job-related skills.
- ***Provide professional development for teachers, school administrators and counselors.*** Educators need the opportunity to work in and observe private industry over the summer or periodically during the school year. Few teachers, for instance, have actually worked in business offices, in clinics, on assembly lines, in drafting studios or on factory floors. Without such experiences, teachers will have difficulty understanding and demonstrating how academic theory is applied in various work settings.
- ***Help students identify interests and develop realistic expectations about specific jobs and careers.*** Employers and their employees can help students better understand the requirements of specific jobs and careers by serving as mentors and by becoming involved in career guidance at schools and in the community.

A Call to Action for Employers

Help lay the groundwork for your future workforce:

✓ Send a clear message to students that their high school and college performance does make a difference in hiring decisions.

✓ Work with your employees and educators to provide students with good mentors.

✓ Provide students with summer learning opportunities. When possible, pay students for their work.

✓ Let students experience as many aspects of your business and its operation as possible.

✓ Offer work experiences to teachers, faculty, guidance counselors and administrators.

✓ Provide schools and colleges with feedback on their students' performance.

TEACHERS in the Trenches

In **Hawaii**, Hawaiian Electric, the state's public utility company, brings in teachers and students for a five-week summer program. Teachers work alongside the students, seeing firsthand the needs of the workplace. Later, the teachers leave and the students remain for an additional week to work with a mentor.

Through a pilot program called Project SEE (Summer Employment Experiences for teachers), the **Delaware** School-to-Work Office also places students and teachers with the same employer during the summer. State officials hope the experience will provide teachers with a better understanding of their students' needs and ultimately help them connect classroom learning to the real world.

The hope in Delaware is that "... participating teachers and students will use their learning to help high schools rethink curricula, instructional methodology and professional training."

A Call to Action for Employees

Use your expertise to help students:

✓ Serve as mentors and workplace supervisors to students. You can provide them with invaluable training, advice and support.

✓ Talk to supervisors, employers, parents and educators about the kinds of skills and knowledge needed to perform your job.

Conclusion . . . THE CHALLENGES AHEAD

[Connecting Learning and Work] will require a sharing of responsibility and autonomy among agencies, groups and individuals unaccustomed to working in this manner.

Despite the relative youth of initiatives to connect learning and work, state experiences show remarkable progress. Some of this success derives from the power of such efforts to attract broad support. If the idea is to make a real difference, however, states need to do everything possible to involve and get the support of education, business, government, parents and community leaders.

As long as certain key groups or individuals remain uncommitted and uninvolved, few states will be able to build a solid foundation for reform. Students will be the primary losers, although not the only ones. All parties will lose as schools continue to graduate students who lack the necessary skills to succeed in the workforce and society.

Attaining and holding the vision of an education reform that connects learning and work will not be easy, even among those people most committed to the idea. It will require a sharing of responsibility and autonomy among agencies, groups and individuals unaccustomed to working in this manner.

Educators will need to explore different teaching methods. Employers will need to make their employees and resources available to schools and students, understanding these are wise investments for the future. State agency officials will need to set the stage for reform and remove obstacles. State leaders must be willing to work together far more collaboratively than ever before.

State initiatives to connect learning and work are still unfolding. Questions regarding continuing funding need to be resolved. Public support is still a challenge in many states, and many partnerships are still being developed. Some of these issues may be resolved as results become known. Judging from the results to date, however, Connecting Learning and Work has struck a responsive chord among the states and will move forward as long as state leaders, employers and local communities are willing to maintain their interest and confidence.

Key Words for *CONNECTING LEARNING AND WORK*

"2+2" articulation — Links 11th- and 12-grade curriculum and the first two years of college to create a strong four-year occupational curriculum that produces graduates with advanced skills. The intent is to eliminate, as much as possible, unnecessary duplication of training across the two levels. (Florida Division of Applied Technology and Adult Education, November 1994) Many states also have developed 2+2+2 programs, which coordinate student coursework in high school with coursework in their first two years of college (typically at a community college) and last two years of college (typically at a four-year institution).

Accountability — Systems that provide information which tells policymakers, the public and other involved parties how well the education system is doing. Information typically includes student assessment data, indicators and studies. Accountability information can be used to provide information to the public, to help partners reach agreement on how to improve the education system or to provide rewards or sanctions for success or failure.

Applied learning — Technique that permits students to learn by doing. The learning environment is structured so that students learn general academic principles through hands-on work to solve real-life problems.

Apprenticeship — Program registered with a state department of labor or apprenticeship agency, which is conducted or sponsored by an employer, a group of employers and a union. Apprentice training provides young people with the manipulative skills and technical or theoretical knowledge needed for competent performance in skilled occupations. The program usually involves cooperation among school, labor and management since apprentices learn the skills of the craftsman through on-the-job work experiences and related classroom information. The minimum terms of apprenticeships are regulated by state and local statutes or agreements. (Florida Division of Applied Technology and Adult Education, November 1994)

Assessment — Measurement of what a student knows and is able to do, usually expressed in terms of progress toward a standard or mastery of a standard. Assessment can include diverse measures such as multiple-choice tests, performance tests and portfolios to show how well a student has mastered a standard.

Benchmark — Point of reference from which measurements may be made or something that serves as a standard by which others may be measured or judged.

Career awareness — Includes programs in which students:

- Develop awareness of diverse employment opportunities
- Develop awareness of self in relation to employment in a potential career
- Develop foundations for positive attitudes toward work and society
- Develop attitudes of respect and appreciation towards workers in all fields
- Make tentative choices of career clusters to explore in greater depth during middle school years. (American Vocational Association, 1994).

*Some definitions were adapted from sources outside ECS. Bibliographic information for each of these sources is contained in the *References* section at the end of this document.

Career cluster —Tech-prep curricular approach designed to build strong foundations, provide opportunities for student choice and increase competency levels. This approach is based on the concept that many occupations require common skills and knowledge. It is possible, therefore, to design a curriculum that has a core of courses common to several related specialties. (Florida Division of Applied Technology and Adult Education, November 1994)

Career exploration — Programs at the middle-school level in which students:

- Explore key occupational areas and assess their own interests and abilities
- Become familiar with occupational classifications and clusters
- Develop awareness of relevant factors to be considered when making career decisions
- Gain experience in meaningful decision-making
- Develop tentative occupational plans and arrive at a tentative career choice. (American Vocational Association, 1994)

Career pathway — Clearly articulated sequence of coursework and learning requiring some postecondary education. These include youth apprenticeships/career internships, preregistered apprenticeship, professional preparation, technical preparation, occupational preparation and career preparation. (Career Opportunities 2000, Maine, 1995)

Career portfolio — Lifelong, student-managed collection of accomplishments and progress toward career goals (Oklahoma Department of Vocational and Technical Education, 1995)

Career preparation — Centers on career-cluster programs in which 11th- and 12th-grade students:

- Acquire occupational skills and knowledge for entry-level employment and/or advanced occupational training or education
- Acquire academic skills and knowledge for entry-level employment and/or advanced education or training
- Participate in programs that build upon one another and lead to advanced placement
- Participate in work-based learning opportunities
- Get the opportunity to move into work or further education at baccalaureate institutions. (American Vocational Association, 1994)

Certificate of Advanced Mastery (with endorsements) — Signifies students have been prepared for postsecondary academic pursuits and professional technical careers. Career endorsements are focus areas that identify a high-quality career-related course of study which informs students about future choices and simultaneously prepares them for further education, lifelong learning and employment. (*Oregon Laws Relating to Public Schools and Community Colleges*, Chapter 329, Sections 447 and 475, 1995)

Certificate of Initial Mastery — Based on a series of performance-based assessments and content assessments, benchmarked to mastery levels at approximately grades 3, 5, 8 and 10. The assessment methods include work samples and tests and may include portfolios. Students may collect credentials over a period of years, culminating in a project or exhibition that demonstrates attainment of the required knowledge and skills that have been measured by a variety of valid assessment methods. Requirements:

- Ensure students have the necessary knowledge and demonstrate the skills to read, write, problem solve, reason and communicate

- Ensure students have the opportunity to demonstrate the ability to learn, think, retrieve information and use technology
- Ensure students have the opportunity to demonstrate they can work effectively as individuals and as an individual in group settings
- Ensure student assessment is based on academic content standards in mathematics, science, history, geography, economics, civics, English, second languages and the arts. (*Oregon Laws Relating to Public Schools and Community Colleges*, Chapter 329, Section 465, 1995)

Cooperative education — Operated by individual schools as part of vocational-education programs; provides students with part-time jobs during the school year, often in their fields of study. Job placements are arranged by a teacher or co-op coordinator. Written agreements spell out what the student is expected to learn and the employer is expected to provide. Participation generally lasts a year or less and provide no credentials for workplace accomplishments. (U.S. Department of Labor, 1995)

Human Resource Investment Council — Brings together representatives from the public and private sectors to consolidate the provision of state human services, workforce preparation programs and economic development initiatives.

Job shadowing — Structured opportunity for a student to accompany employed professionals as they perform their duties. By attending meetings and observing the normal business of the profession, the student can "try on" the occupation and see how classroom learning is used in a real-world setting.

Job Training Partnership Act (JTPA) — Programs established under federal legislation to prepare unskilled adults and youth for entry into the labor force and provides job-training assistance programs for economically disadvantaged individuals and others facing serious barriers to employment who are in special need of such training to obtain productive employment. (Florida Division of Applied Technology and Adult Education, November 1994)

Local partnership — Local entity responsible for local school-to-work programs. It consists of employers, representatives of local education agencies and local postsecondary education institutions, local educators, representatives of labor organizations or nonmanagerial employee representatives, and students. (American Vocational Association, 1994)

Postsecondary education — Provision of formal instructional programs with a curriculum designed primarily for students who have completed requirements for a high school diploma or equivalent. This includes programs of an academic, vocational and continuing professional education purpose, and excludes avocational and adult basic programs. (U.S. Department of Education, *Digest of Education Statistics*, 1995)

SCANS (Secretary's Commission on Achieving Necessary Skills) — Convened in February 1990 to examine workplace demands and to determine whether current and future workforce can meet those demands. The commission identified five competencies (resource use, interpersonal skills, information, systems and technology) and three foundations (basic skills, thinking skills and personal qualities). (National School-to-Work Office, Washington, D.C., 1996)

School-based enterprises — Program in which students produce goods or services for sale or use by others. Such school-based ventures range from restaurants and child-care centers to construction jobs and auto-repair shops. They allow students to apply their classroom knowledge in the real world and give them an early grasp of business operations. According to the National Assessment of Vocational Education, 23% of high schools have adopted

some form of school-based enterprise. (*Education Week*, January 26, 1994)

School-based learning (also see ***Work-based learning***) — Based upon the following:

- Career awareness, exploration and counseling
- Selection of a career major by the beginning of the 11th grade
- Instructional programs that meet the same academic standards of all students
- Earning a skill certificate
- Regular evaluation of academic strengths and weaknesses of students. (Florida Division of Applied Technology and Adult Education, November 1994)

Service learning — Integrating service with academic study to help students connect academic concepts to their implications in the community.

Skill certificate — Portable, industry-recognized credential that certifies a student has mastered skills that are benchmarked to high-quality standards (American Vocational Association, 1994)

Standards — Statements that clearly define what students should know and be able to do in various subject areas and at different points in their K-12 education.

Tech prep — Programs that typically merge the last two years of high school with the first two years of postsecondary education in a coherent program of study. Proficiency is required in mathematics, science, communications and technology. The program leads to an associate degree or a certificate in a career field. Tech-prep programs offer broad preparation for a cluster of occupations. A work component may be included, and some programs offer employment during the summers. Employers provide job placements and serve as advisors for the design and implementation of programs. (U.S. Department of Labor, 1995)

Vocational education — Training intended to prepare the student to earn a living in an occupation in which success depends largely upon technical information and an understanding of the laws of science and technology as applied to modern design, production, distribution and service. (Florida Division of Applied Technology and Adult Education, November 1994)

Work-based learning (also see ***School-based learning)*** — Mandatory activities include:

- Work experience
- Job training and work experiences coordinated with the school-based learning program relevant to a student's career major
- Workplace mentoring
- Instruction in general workplace competencies
- Broad instruction in all aspects of an industry. (Florida Division of Applied Technology and Adult Education, November 1994)
- Includes apprenticeships, internships, mentorships and service learning, among other programs.

Youth apprenticeship— Combines structured learning about a broad occupational cluster in school and at the worksite. Programs typically begin in the 11th grade and include at least one year of postsecondary education. Such programs certify that students possess the skills needed to advance within an industry; they may or may not be tied to registered apprenticeships which are primarily offered by unions and trade associations to prepare adults for specific technical fields. (U.S. Department of Labor, 1995)

References

American Vocational Association. *AVA Guide to the School-to-Work Opportunities Act*. Alexandria, VA: 1994.

"Bridging the Gap," *Education Week*. January 26, 1994.

Campus Compact. *Service Matters: A Sourcebook for Community Service in Higher Education*. Providence, RI: 1994.

Education Commission of the States. *Assessing College Outcomes: What State Leaders Need to Know*. Denver, CO: 1991.

Education Commission of the States. *Profiles in Connecting Learning and Work: State Initiatives*. Denver, CO: 1996.

Education Commission of the States. *Standards & Education: A Roadmap for State Policymakers*. Denver, CO: 1996.

Education Commission of the States. *State Education Leader*. Summer 1996, vol. 14, no. 2.

Florida Division of Applied Technology and Adult Learning. *Acronyms and Definitions (2nd Edition)*. Tallahassee, FL: 1994.

Jobs for the Future. *A Year of Progress in School-to-Career System Building: The Benchmark Communities Initiative Executive Summary)*. Boston, MA: 1996.

Jobs for the Future. *The School-to-Work Toolkit: Building a Statewide System*. Boston, MA: 1994.

Kyle, Regina M. J. *School-to-Work Transition and its Role in the Systemic Reform of Education*. Academy for Educational Development and National Institute for Work and Learning. Washington, D.C.: 1995.

National Center on the Educational Quality of the Workforce. "On Connecting School and Work," EQW Policy Statement. Philadelphia, PA: 1995.

National Conference of State Legislatures and Jobs for the Future. *School-to-Work: A Guide for State Policymakers*. Denver, CO: 1994.

Oklahoma Department of Vocational and Technical Education. *Implementing Oklahoma's System of Career Portfolios and Career Passports*. Stillwater, OK: Department of Vocational and Technical Education: 1995.

Oregon Department of Education. *Oregon Laws Relating to Public Schools and Community Colleges*. Salem, OR: 1995.

Resnick, Lauren B. and John G. Wirt (eds.). *Linking School and Work: Roles for Standards and Assessment*. San Francisco, CA: 1996.

Russell, Alene Bycer, et al. *An Annotated Bibliography on Student Preparation for College and the Workplace*. State Higher Education Executive Officers and Education Commission of the States. Denver, CO: 1995.

U.S. Department of Labor. *Skills, Standards and Entry-Level Work: Elements of a Strategy for Youth Employability Development*. Washington, D.C.: 1995.

Van Horn, Carl E. *Enhancing the Connection Between Higher Education and the Workplace: A Survey of Employers*. State Higher Education Executive Officers and Education Commission of the States, Denver, CO: 1995.

Resource Organizations

Academy for Educational Development
1875 Connecticut Avenue, NW
Washington, D.C. 20009
202-884-8000

American Vocational Association
1410 King Street
Alexandria, Virginia 22314
800-826-9972

American Youth Policy Forum
1001 Connecticut Avenue, NW
Suite 719
Washington, D.C. 20036
202-775-9731

Campus Compact
Brown University
Box 1975
Providence, Rhode Island 02912
401-863-1119

Center for Occupational Research and Development
Post Office Box 2169
Waco, Texas 76702
800-972-2766

Council of Chief State School Officers
One Massachusetts Avenue, NW
Suite 700
Washington, D.C. 20001
202-408-5505

Education Commission of the States
707 17th Street, Suite 2700
Denver, Colorado 80202
303-299-3600

Jobs for America's Graduates
1729 King Street, Suite 200
Alexandria, Virginia 22314-2720
703-684-9479

Jobs for the Future
One Bowdoin Square
Boston, Massachusetts 02114
617-742-5995

National Alliance of Business
1201 New York Avenue, NW
Suite 700
Washington, D.C. 20005
800-787-2848

National Center for Education and the Economy
700 11th Street, Suite 750
Washington, D.C. 20009
202-783-3668

National Center on the Educational Quality of the Workforce
University of Pennsylvania
4200 Pine Street, 5A
Philadelphia, Pennsylvania 19104
215-898-2722

National Conference of State Legislatures
1560 Broadway, Suite 700
Denver, Colorado 80202
303-830-2200

National Governors' Association
444 North Capitol Street, NW
Washington, D.C. 20001
202-624-5300

National School-to-Work Opportunities Office
400 Virginia Avenue, Room 210
Washington, D.C. 20024
202-401-6222

Southern Regional Education Board
592 Tenth Street, NW
Atlanta, Georgia 30318
404-875-9211

State Higher Education Executive Officers
707 17th Street, Suite 2700
Denver, Colorado 80202
303-299-3686

APPENDIX

Connecting Learning and Work: Roles and Components in an Effective System

Roles	Components of a Connecting Learning and Work System				
	High Standards for All Students and Adult Learners	**Applied Learning in School and at Work**	**Career Awareness and Development**	**Coordinated Policies and Support**	**Feedback and Continuous Improvement**
State Leaders and Policymakers	• Policymakers establish clear expectations for education and job training initiatives. • Policymakers re-examine state policies that may serve as barriers to a cohesive state system of Connecting Learning and Work.	• Policymakers re-evaluate current funding strategies that may serve as barriers to providing students with both strong academic skills and workforce preparation. • Policymakers support assessment of non-classroom learning.	• Policymakers direct resources to career development centers in schools, on college campuses and in local communities. • State government provides up-to-date economic forecasts and job information.	• Policymakers fund programs across institutions to allow for more inter-institutional collaboration. • State government assists stakeholders in building alliances across regions and the state. • Policymakers revise or create policies that encourage business participation in Connecting Learning and Work.	• Policymakers hold stakeholders accountable (e.g., require "report cards" for schools and local partnerships). • Policymakers conduct periodic evaluations to determine the effectiveness of related state policies.

APPENDIX

Connecting Learning and Work: Roles and Components in an Effective System

Roles	Components of a Connecting Learning and Work System				
	High Standards for All Students and Adult Learners	**Applied Learning in School and at Work**	**Career Awareness and Development**	**Coordinated Policies and Support**	**Feedback and Continuous Improvement**
Students & Parents	• Students achieve high academic and skills standards. • Students and parents understand what is expected of them to succeed in school and the workplace. • Parents encourage students to learn inside and outside of school.	• Students plan for lifelong learning. • Students and their parents recognize multiple pathways to success. • Students participate in work-based or service learning.	• Students complete portfolios that demonstrate knowledge, skills, abilities, and interests gained in the classroom and through work-based and community learning. • Parents participate in student career choice. • All students prepare for some form of postsecondary education and training.	• Parents become involved with schools and state and local initiatives to improve education. • Students and parents support state and local policies that promote student-centered teaching and accountability.	• Students base career decisions on information provided through school assessment, work experiences and state and national economic forecasting. • Students and parents provide feedback to schools on the effectiveness of programs in meeting student needs.

APPENDIX

Connecting Learning and Work: Roles and Components in an Effective System

Roles	Components of a Connecting Learning and Work System				
	High Standards for All Students and Adult Learners	**Applied Learning in School and at Work**	**Career Awareness and Development**	**Coordinated Policies and Support**	**Feedback and Continuous Improvement**
Schools & Communities	• Schools work with families and communities to define what students need to know and be able to do. • Communities ensure that *all* students have strong academic skills necessary for employment and citizenship. • Schools use work-based learning experiences to reinforce high standards established in the classroom.	• Schools use career majors as a tool for helping *all* students achieve high academic and workplace skills. • Schools and communities provide students with multiple learning sites. • Schools integrate academic development with career preparation. • Schools ensure that teachers understand and can use applied learning techniques in the classroom.	• Schools involve local business in providing relevant career guidance. • Schools and districts require professional development for guidance counselors. • Schools support development of student career portfolios.	• Schools work with local agencies to ensure that the needs of *all* students are met. • Schools and communities establish strong working relationships with all stakeholders. • School administrators and teachers re-examine the structure for teacher reward and recognition.	• Schools assist students in making wise decisions based on interest and ability inventories and multiple forms of assessment. • Schools use assessments to benchmark student achievement and provide additional assistance and opportunities to students as needed. • Schools and communities hold themselves accountable for student learning.

APPENDIX

Connecting Learning and Work: Roles and Components in an Effective System

Roles	Components of a Connecting Learning and Work System				
	High Standards for All Students and Adult Learners	**Applied Learning in School and at Work**	**Career Awareness and Development**	**Coordinated Policies and Support**	**Feedback and Continuous Improvement**
Colleges, Universities and Community Colleges	• Colleges and universities advise schools on what students need to know to succeed at the postsecondary level. • Faculty and administrators take more responsibility for the career readiness of their graduates.	• Colleges and universities re-examine their admission policies to credit students for skills and knowledge gained in applied settings both at school and in the workplace. • Colleges and universities give students academic credit for knowledge acquired off campus. • Faculty re-evaluate the way they teach to give students applied learning opportunities.	• Colleges and universities expand career exploration opportunities for their students. • Colleges and universities re-examine their course offerings to provide more access for adult learners who need additional education or training to remain competitive in the workforce.	• Two- and four-year campuses work together and with high schools to develop integrated programs across institutions (e.g., 2+2+2 and 4+2 programs). • Colleges and universities establish strong working relationships with all stakeholders.	• Colleges and universities provide feedback on student performance to schools. • Colleges and universities benchmark postsecondary student learning. • Administrators and faculty re-evaluate the faculty reward system. • Schools of Education redesign teacher education and guidance counselor training to respond to applied learning and workforce preparation.

APPENDIX

Connecting Learning and Work: Roles and Components in an Effective System

Roles	Components of a Connecting Learning and Work System				
	High Standards for All Students and Adult Learners	**Applied Learning in School and at Work**	**Career Awareness and Development**	**Coordinated Policies and Support**	**Feedback and Continuous Improvement**
Employees, Employers & Business Leaders	• Employers use high school grades and competencies to stress to students the necessity of strong academic work while in high school. • Employers and business leaders advise schools on what students need to know and be able to do in order to succeed in the workplace. • Employers and business leaders assist schools in setting appropriate academic and skill standards.	• Employers provide students with work sites. • Employers provide students with paid work experience whenever possible. • Employers and business leaders provide teachers with professional work experiences that allow them to make their teaching more relevant to students and their working lives.	• Employers and business leaders support training of work-site mentors. • Employers provide students with experience in all aspects of the business or industry. • Employers and business leaders serve on and actively participate in local, regional, and state partnerships.	• Business leaders serve on and actively participate in state and local steering committees and implementation boards. • Employers and business leaders advise the state on changing workplace and workforce needs.	• Employers and business leaders participate in establishing state and local evaluation structures. • Employers and business leaders provide feedback to students, schools, and colleges and universities on student performance in the workplace.

Related Publications From ECS

Connecting Learning and Work: A Call to Action. Details what this initiative is all about. Invites state leaders and policymakers; parents and students; schools, school districts and communities; colleges, universities and community colleges; employees, employers and business leaders to develop quality education programs for successful achievement whether in the workplace or in postsecondary education.
1996 (LW-96-1) 40 pp. $15

Profiles in Connecting Learning and Work: State Initiatives. Provides an overview of each state's vision, planning and evaluation of school-to-work programs. Shows how states are moving forward to implement programs with the involvement of state government, communities, schools, employers and families.
1996 (LW-96-2), 220 pp. $30

State Education Leader "Connecting Learning and Work." Introduces the concept of Connecting Learning and Work to promote healthy discussion about this approach to school reform.
1996 (SEI-96-2), Vol. 14, No. 2, Spring 1996 . . $6

Standards & Education: A Roadmap for State Policymakers. Discusses the history of standards, what they are and how they work — and how we know they work. Gives case studies of how three states approached standards development and implementation differently and describes how states need to align policy around standards and the role of districts and schools in implementing standards.
1996 (SI-96-3), 38 pp. $12.50

An Annotated Bibliography on Student Preparation for College and the Workplace. Describes key national data sources and reports on student preparation for college and work.
1995 (PS-95-3), 51 pp. $12.50

Enhancing the Connection Between Higher Education and the Workplace: A Survey of Employers. Presents evidence of why higher education should be involved in preparing the nation's workforce. Results from a survey of 404 New Jersey employers questioned about their expectations of and satisfaction with college graduates provide food for thought for policymakers and educators alike.
1995 (PS-95-4), 47 pp. $12.50

Mail your order and payment* (including postage and handling) to:

Education Commission of the States
707 17th Street, Suite 2700
Denver, Colorado 80202-3427

If you have questions about your order, contact the ECS Distribution Center at 303-299-3692.

***Payment**: Cash is not accepted and orders will be returned. All orders must be prepaid; ECS can no longer invoice. Credit cards accepted are MasterCard or Visa (include your credit card number and expiration date). All orders must include appropriate postage and handling fees as listed below. ALL SALES ARE FINAL.

Postage and handling charges: Up to $10.00, $3.00; $10.01-$25.00, $4.25; $25.01-$50.00, $5.75; $50.01-$75.00, $8.50; $75.01-$100.00, $10.00; over $100.01, $12.00.

Generous discounts are available for bulk orders of single publications. They are: 10-24 copies, 10% discount; 25-49 copies, 20% discount; and 50+ copies, 30% discount.

Shipping: Publications are shipped first class or UPS. Additional charges for requested overnight mail will be added to your purchase. International customers will be billed for additional postage and handling.

ECS PUBLICATIONS ORDER FORM			
Publication Number and Title	Price	Quantity	Total
LW-96-1, *Connecting Learning and Work: A Call to Action*	$15.00		$
LW-96-2, *Profiles in Connecting Learning and Work: State Initiatives*	$30.00		$
SEI-96-2, *State Education Leader*: Connecting Learning and Work	$6.00		$
SI-96-3, *Standards & Education: A Roadmap for State Policymakers*	$12.50		$
PS-95-3, *An Annotated Bibliography on Student Preparation for College and the Workplace*	$12.50		$
PS-95-4, *Enhancing the Connection Between Higher Education and the Workplace: A Survey of Employers*	$12.50		$
Subtotal			$
+ Postage and handling			$
TOTAL			$

Postage and handling charges: Up to $10.00, $3.00; $10.00-$25.00, $4.25; $25.01-$50.00, $5.75; $50.01-$75.00, $8.50; $75.01-$100.00, $10.00; over $100.00, $12.00.

Generous discounts are available for bulk orders of single publications. They are: 10-24 copies, 10% discount; 25-49 copies, 20% discount; and 50+ copies, 30% discount.

If you have questions concerning ECS publications, contact our Distribution Center at 303-299-3692. Make checks payable to **EDUCATION COMMISSION OF THE STATES.**

Name _____

Organization _____

Address _____

City/State/ZIP _____

Send this form to the **ECS Distribution Center, 707 17th Street, Suite 2700, Denver, CO 80202-3427.**

SCHOOL BUSINESS UNIVERSITY

BLUEPRINT

COMMUNITY/TECHNICAL COLLEGE

Education Commission of the States
707 17th Street, Suite 2700
Denver, Colorado 80202-3427
303-299-3600
FAX: 303-296-8332
e-mail: ecs@ecs.org
http://www.ecs.org

BEST COPY AVAILABLE